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THESIS

TRANSFORMING EXECUTIVE FIRE OFFICERS—A PARADIGM SHIFT TO MEET THE INTELLIGENCE NEEDS OF THE 21ST CENTURY FIRE SERVICE

by

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13. ABSTRACT (maximum 200 words)

Executive Fire Officers (EFOs) routinely face complex strategic challenges, but none are as multifaceted or as intractable as the expansion of the fire service's core mission to embody intelligence functions. Given the emerging public expectation that the fire service be a critical partner in efforts to secure the homeland, it is imperative that EFOs be prepared to lead their respective departments into this unchartered territory.

Most EFOs agree that adjusting strategies is necessary to adapt to emerging threats of terrorism. Moreover, this concept is widely accepted and embraced by the fire service in the context of its traditional core disciplines. Where philosophies diverge is how each envisions the fire service's role related to intelligence sensing, collecting and sharing.

While the threat of terrorism prevails, the fire service is challenged to adapt its practices, policies and strategic objectives if it is to maintain the highest state of operational readiness. Inclusion of firefighters into the information and intelligence-sharing framework will require a systemic transformation by both the fire service and its law enforcement partners. Central to this transformation are national guidance documents on folding counterterrorism strategies into fire departments' policies, procedures and operating guidelines. Incorporating such guidance will enhance the homeland security by making EFOs better "First Preventers" and "First Responders."

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TRANSFORMING EXECUTIVE FIRE OFFICERS—A PARADIGM SHIFT TO MEET THE INTELLIGENCE NEEDS OF THE 21ST CENTURY FIRE SERVICE

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LIST OF ACRONYMS AND ABBREVIATIONS

ACLU   American Civil Liberties Union

ACTIC   Arizona Counter Terrorism Information Center

CAS   Complex adaptive system

CBRN   Chemical, Biological, Radiation or Nuclear

CIMS   Crisis Information Management System

COCEP   Chief Officers Continuing Education Program

CRR   Community risk register

DHS   Department of Homeland Security

DM   Disaster management

EFO   Executive Fire Officer

EIC   Emergency Interoperability Consortium

EOC   Emergency operation center

FBI   Federal Bureau of Investigation

FCMT   Future comparison matrix tool

FDNY   Fire Department New York

FEMA   Federal Emergency Management Agency

FLO   Fusion liaison officer

FOUO   For Official Use Only

FRS   Fire/Rescue Sensitive

FSIE   Fire Service Intelligence Enterprise

GLR   General linear reality

HIPAA   Health Insurance Portability and Accountability Act

HSDN   Homeland Secure Data Network

HSPD   Homeland Security Presidential Directive

IAFC   International Association of Fire Chiefs

IAFF   International Association of Firefighters

IC   Intelligence Community

ICS   Incident Command System

IRA   Irish Republican Army

ISE   Information Sharing Environment

ITACG   Interagency Threat Assessment & Coordination Group

LE   Law enforcement

LEO   Law enforcement online

LES   Law enforcement sensitive

LFB   London Fire Brigade

LRF   Local resilience forums

NCR   National Capital Region

NIMS   National Incident Management System

NPS   Naval Postgraduate School

NRF   National Response Framework

PFR   Portland Fire and Rescue

SiPRNET   Secret Internet Protocol Router Network

SME   Subject matter expert

TLO   Terrorism liaison officer

UASI   Urban Area Security Initiative

UK   United Kingdom

WMD   Weapons of mass destruction

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I.   INTRODUCTION

In response to the ill-fated events of September 11, 2001—arguably the most horrific loss of life on American soil—the American fire service[1] found itself in unchartered waters. For the past 200 years, firefighters had become world renown for saving lives and property. Most urban fire departments across the country respond to and mitigate a broad spectrum of calamities day in and day out. Furthermore, though incidents of weapons of mass destruction (WMD) or terrorism were rare in the pre-9/11 world, fire service preparedness for such contingencies became pervasive since the late 1980s. Despite those efforts, 9/11 introduced Executive Fire Officers (EFOs) to unanticipated degrees and ramifications of risk and terrorism. What started out as another tour of duty for firefighters in New York City and Arlington, Virginia, became the vanguard that put in motion a call to reevaluate the core functions of the fire service and question current doctrine and the status quo.

Although America's public safety network[2] was keenly aware of the threat of terrorism, until 9/11 they operated under the shared belief that such events were virtually impossible on American soil because public safety professionals collaborated to prepare, prevent and respond to terrorism and crimes against humanity. This assumption was shattered that day and subsequently highlighted in the assessment by the 9/11 Commission. Specifically, the Commission sounded a strident reveille by proclaiming that the greatest impediment to all-source intelligence analysis was the human or systemic resistance to sharing information (National Commission on the Terrorist Attacks upon the United States [9/11 Comission], 2004, p. 416). With this announcement, the fire service joined the ranks of other public agencies, notably the intelligence community (IC),[3] for its failure to "connect the dots."

Furthermore, the report lamented that "agencies uphold a 'need-to-know' culture of information protection rather than promoting a 'need-to-share' culture of integration"

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[1] The fire service includes operations undertaken by urban fire departments, fire and rescue emergency operations, emergency medical services, hazardous materials, fire prevention and investigation.

[2] Public safety network includes all emergency responders: fire, police, and emergency management.

(9/11 Commission, 2004, p. 417). This analysis spurred the transformation of the traditional intelligence community and promoted the gradual integration of non-traditional partners into the realm of the larger intelligence community.

Shortly after 9/11, Congress and the President of the United States collaborated to pass Public Law 107–56, Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT ACT). On the heels of this new law, the federal legislative body passed the Homeland Security Act of 2002 as a measure to formalize a means to carry out the Patriot Act and to enforce the newly created federal crime of domestic terrorism. The most significant aspect of the Homeland Security Act was the creation of the Department of Homeland Security (DHS). According to Homeland Security Act of 2002, the mission of the DHS is:

> To prevent terrorist attacks within the United States; reduce the vulnerability of the United States to terrorism; and minimize the damage, and assist in the recovery, from terrorist attacks that do occur within the United States. (U.S. Department of Homeland Security [DHS], 2002)

Once the creation of the Department of Homeland Security came to fruition, national strategic initiatives followed as instruments for addressing the intelligence lapse. Significantly, the *National Strategy for Information Sharing* set forth the criticality of collaborative efforts to counter and deter domestic terrorism by reiterating, "One clear lesson of September 11 was the need to improve the sharing of information" (White House, 2007, p. 7). As set forth by the *Strategy*, gathering, analyzing and the sharing of information and intelligence became paramount for the prevention and deterrence of future terrorist acts against the homeland. The strategy called for a multi-directional flow of information to include state, local and tribal partners to prevent future terrorist attacks, counter and respond to threats (White House, 2007, p. 3).

Among the lessons learned[3] from that traumatic day were some harsh realities for the fire service. Beyond the staggering number of line-of-duty deaths was the unimaginable use of unconventional weapons aimed at harming civilians and first

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[3] *Lessons Learned* refers to the best practices for emergency responders and homeland security officials. Access to the National Lessons Learned Information Sharing network is via the Web site: https://www.llis.dhs.gov/index.do.

responders alike. The absence of situational awareness and lack of a shared command structure for all responders to exchange information and intelligence served as a wake-up call. Moreover, this particular event underscored the criticality of a coordinated local response to modern terrorist attacks that would place the fire service at the forefront of the first responder community.

The modern fire service is now an integral partner in the larger homeland security mission, requiring EFOs to maximize local or regional efforts against terrorist activities touching American soil. Now more than ever, EFOs must anticipate applying non-traditional measures or action to prevent, deter, or mitigate a terrorist attack where possible. With this new responsibility comes the need to navigate through uncharted territory for the traditional fire service, whose unifying ideology and strategic vision center on the core mission of protecting life and property.

A. PROBLEM STATEMENT

EFOs face no challenge more intractable than the expansion of their core mission to embody intelligence functions4 that are at once alien to firefighters and dependent on equally unprecedented collaborations with non-firefighter partners in public safety. While most EFOs accept that reformulating strategies is in order, they diverge on how best to move forward. In addition to other cultural changes in information sharing by law enforcement, EFOs need a coherent approach to each of the following three elements for a successful firefighter intelligence transformation:

B. FIRST RESPONDER TO FIRST PREVENTER—FINDING A MIGRATION PATH

The current homeland security threat assessment suggesting the potential for terrorist attacks using weapons of mass destruction has raised the collective consciousness of most urban fire departments. While they have spent countless hours

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4 Intelligence functions include parts of the intelligence process that experts define as a five-step process: 1) identifying requirements, 2) collection, 3) processing and exploitation, 4) analysis and production, and 5) dissemination (Lowenthal, 2006, p. 54).

preparing to respond to WMD incidents through education and training focused on equipment, techniques and strategies to handle such events, most efforts dealing with *preventing* terrorist attacks have been superficial at best.

To transform the fire service from a first responder to a first preventer[5] organization, it is imperative that EFOs introduce and adopt principles of intelligence collection and sharing. Then EFOs must incorporate these principles into department policies, procedures and strategic initiatives, if they are to maintain a state of readiness consistent with current threat assessments. Neither role is exclusive to the other. However, by inculcating first preventer disciplines into the skill sets of major urban fire departments, resulting contributions to counterterrorism will be seen to pay dividends in firefighter safety. Additionally, collaborative efforts between fire and law enforcement necessitated by intelligence needs, ultimately benefit the fire department in its larger mission of protecting its community.

C. LEADERSHIP—SETTING NEW PRIORITIES FOR THE LONG TERM

As with all organizations or industries, cultural transformation is difficult and seldom rapid. Despite internal resistance and resource limitations, organizational change is certainly achievable given the persistence and commitment exemplified by visionary leaders. Within the fire service, cultural shifts tend to be reactionary and generally in response to lessons learned, technological advances or legal mandates. Given the paramilitary hierarchy of the fire service where the final decision maker is usually the chief of the department, as the discussion moves to adapting core functions or possibly one's mission, EFOs are the natural starting point for change of this magnitude.

While the modern fire service rarely exhibits radical change in its culture and day-to-day operations, most EFOs have acknowledged that preparing for terrorist attacks is a business priority that is not going away. Therefore, on a national scale, institutional

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[5] First preventer refers to an active participant in the intelligence/information gathering and sharing arena.

culture[6] seems to be the greatest hurdle for the fire service to comprehend the importance of actionable intelligence and the process of information gathering and sharing. Via transformational leadership, officers can institute change within their respective departments that should have a rippling effect that transforms the current fire service paradigm.

D. OPERATIONALIZING INTELLIGENCE—CLARIFYING FIRE'S INTELLIGENCE ROLE

Arguably, the fire service lacks a fundamental understanding about what intelligence is and is not. Conversely, it would be difficult to identify an EFO who does not recognize the importance of situational awareness for mitigating incidents.

Furthermore until the fire service acknowledges the criticality of participation in gathering and disemintaing information *within* the fire service and the necesity to engage in collaborative efforts with non-traditional partners, EFOs won't recongize that their actions contibute to the larger homeland security mission.

To bridge this gap, it is imperative that the leadership of the fire service defines what their intelligence needs are; acknowledge that intelligence gathering is a common phenomena with every incident and scene size-up or fire inspection; and differentiating that law enforcement-centric intelligence is not the same for the fire service. Critical to the emergence of fire service intelligence nomenclature is a basic understanding opined by intelligence experts who have said that "all intelligence is information; not all information is intelligence" (Lowenthal, 2006, p. 2).

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[6] Institutional culture is a concept in the field of organizational studies and management which describes the attitudes, experiences, beliefs and values of an organization. It has been defined as "the specific collection of values and norms that are shared by people and groups in an organization and that control the way they interact with each other and with stakeholders outside the organization" (Hill & Jones, 2001).

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II.   LITERATURE REVIEW

This literature review examines the relationship between organizational culture and leadership theory regarding the adoption of non-traditional functions in the fire service. Researchers assume that if EFOs are to succeed in the transformation of the fire service from first responder to first preventer, they must understand emerging trends related to organizational theory and relevant adaptive leadership. If an intelligence role is necessary for becoming first preventers, and if the shift to first preventer is a strategic change, then EFOs need to have an idea of how to implement strategic initiatives in the first place.   In its culture and traditions, however, the fire service has historically allocated minimal time and attention to strategic initiatives in general.   Under the circumstances, embracing an intelligence role and first preventer responsibilities will mean an uphill and steep climb for most EFOs.

Moreover, as much as terrorist attack prevention and intelligence gathering may be unfamiliar to firefighters, academic proponents of intelligence sharing are no doubt equally uneducated regarding the life-endangering and life-saving priorities that firefighters must assess and mitigate on a regular basis. Consequently, a theorist's grasp of the firefighter's duties and opinions of how and whether a firefighter should allocate time and priority to an intelligence task are likely to be deficient. Absent an infusion of ground truth, such opinions will be unburdened by the realities of personal risk and legal liability that EFOs acquire only by experience and scar tissue. Therefore, two streams of literature require review and blending to shed light on this dilemma. One stream must address matters of organizational change and user acceptance of new strategic initiatives. The other must address intelligence collection and sharing as a new and secondary duty for public servants who already have a demanding, full-time job.

The researcher discovered ample literature directed toward organizational behavior and leadership. Most has universal benefit to the public sector. However key to this research were organizational behavior related to environments that experience complexity and chaos with the paramilitaristic undertone similar to the fire service. Unlike analytical arms of intelligence agencies which may more closely resemble think

tanks or academic environments, fire departments face life-threatening situations with the kind of frequency that intrudes on quiet reflection. In this context, firefighters see themselves as rescuers first and analysts second—if there is time. Being routinely bombarded with life-threatening situations ultimately sustains for the fire service an operating tempo that may be altogether alien to most traditional intelligence functions. This widens the gap in comfort zones between fire and intelligence.

Despite a wealth of academic efforts on the study of intelligence operations for both the military and civilian law enforcement institutions, there are exiguous documents that include the fire service. Post 9/11, there has been an explosion of documents describing intelligence functions and information sharing for every level of government to support the larger public safety mission.

Comparatively, most fire service literature is derived from trade publications, websites or in the form of a *lessons learned* communication where first hand experiences are shared and serve as the basis for learning.[7] In these forums, the fire service evaluates trends and equipment or discussions about the ever subjective "tactical tool chest" as seen from the eyes of the author. Rarely are published or blogged writings debated with empirical data, but rather they are subject to a "hands-on" analysis to determine the efficacy or merits of the practice or procedure. Occasionally concepts dealing with fire service culture, such as its behaviors and attitudes, leadership, or emotional intelligence are viewed as "soft" issues or radical thinking and ignored completely until tragedy strikes. That said, throughout this thesis, the researcher draws on over eighteen years of experience in a major urban fire department in referring to the undocumented traditions and culture of the fire service.

A.   COMPLEXITY THEORY AND LEADERSHIP

Most traditional hierarchical perspectives of leadership commonly seen in the fire service appear archaic when faced with the uncertainties of the prevalent homeland security environment. Today's modern fire service engages in a multitude of functions to

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[7] Several common sources are; *Fire Chief, Fire Engineering, Fire House Magazine,* Fire Rescue Magazine, Fire Rescue1.com, *US Department of Homeland Security: Lessons Learned Information Sharing* (LLIS.gov), *IAFC Homeland Protection & Security Weekly,* Firfighternearmiss.com.

meet the expectations of providing a complex service delivery, so "*complexity*" is not new to the fire service. Each incident involves several layers and chains of events to mitigate in its simplest form.

Scholars and management authorities have written extensively about transformational leadership and complexity theory. These experts suggest that organizations are highly complex and nonlinear, and leadership theory must adapt to meet the complex needs of our modern world. One model well suited for the paramilitaristic fire service is commonly used by the military. The military model's strategy toward command and control is accompanied by methods of dealing with inherent complexity and the adoption of an effects-based approach.

When first viewing intelligence, the fire service sees a singular, non-traditional action rather than focusing on the outcomes of this function. This view neglects to consider how sharing raw information will contribute to preparedness and situational awareness not only for the fire service, but also for all first responders. The idea of focusing on desired outcomes and being flexible in dealing with complexity is critical for effecting change within the fire service. As Smith describes in his book, *Complexity, Networking, & Effects-Based Approaches to Operations,* "The strength of an effects-based approach to operations is that it squarely addresses these complexities by concentrating on their most nonlinear aspects: humans, their institutions, and their actions" (2006, p. ix).

Smith argues that in complex adaptive systems (CAS), using empirical data to predict behavior is futile and ineffective. The non-linearity of complex situations and lack of knowledge about how stimuli or systems will react limits the ability to predict behavior (Smith, 2006, pp. 93–96). To counter, he suggests that the use of subject matter experts to dictate coordinated sets of actions is more prudent because of their unique mastery of complex situations (Smith, p. 92). When contextualizing the fire service as a CAS, the lesson here, is that it will take a type of transformational leadership that relies on field experience, intuition, and the fluidity of the changing landscape to deal with terrorist-related issues. In other words, fire service intelligence will not alone gain

traction among firefighters who are presented only with a logical argument for its value. It will take a EFOs who are committed to change and real world examples of success and impacts to breathe life into the intelligence role.

Similarly, the unfamiliar improves by being introduced through the lens of what is known, tried, and true. Other scholars have used CAS as a framework to define roles and relationships among agents, individuals, and communities of individuals who share common interests, experience or guiding principles due to their "history or interaction and sharing of worldviews" (Lichtenstein, Uhl-Bien, Marion, Seers, Orton, & Schreiber, 2006, p. 3). Firefighters don't necessarily share world views, but they do share a common ideology that supports their core mission of *protecting lives and property*. The challenge is to convince firefighters that situational awareness and safety are enhanced by adopting intelligence principles. If this occurs, firefighters will be more receptive. Subsequently, over time, they will become more comfortable with the the process of intelligence gathering and sharing, and their emergent behavior will embody the doctrine of deterring and preventing terrorist activities without compromising their core mission. Thus, the transformation will take not only EFO commitment but also a compelling argument in terms that firefighters can see as compelling.

Another evolving trend suggests "effective leadership doesn't necessarily reside within the leader's symbolic, motivational, or charismatic actions but rather leadership is an emerging event resulting from interactions between the agents. These scholars contend that "leadership is a dynamic that trancends the capabilities of individuals alone; it is the product of interaction, tension, and exchange rules governing changes in perceptions and understanding" (Lichtenstein et al., 2006, p. 2). Moreover, to enable innovative thinking through change agents, EFO cannot afford to ignore the importance of the informal leaders or they will essentially undermine any chance of affecting organizational behavior. The lesson for fire service acceptance of new roles is that they must be embraced as much by the informal leaders and respected firefighters as by EFOs themselves.

The significance of their work to the fire service is rooted in their definition of adaptive leadership. They suggest adaptive leadership is "…an interactive event in which knowledge, action preferences, and behaviors change, thereby provoking an organization to become more adaptive" (Lichtenstein et al., 2006, p. 4). Although the definition focuses on change, more importantly it acknowledges the importance of leadership as a means of engaging individual members to generate adaptive outcomes as they resonate toward a common interest. Subsequently by using this definition, the authors claim that leadership can occur anywhere within a social system. This is a critical concept for EFOs tasked with implementing divergent strategic objectives such as intelligence functions. In other words, engagement is everything, and it is necessary to show, tell, and practice at all levels of the organization in order to make implementation a reality.

At its lowest level, say a department, fire stations or nodes are strategically placed in a municipality whereby all of the firefighters in each station report to the chief via the chain of command. The chief is generally located at headquarters or the hub of the department. In the larger framework, the fire service is made up of networks of fire departments whereby the hub could be considered a major urban fire department and the critical nodes are the regional departments who share responsibilities for protecting the region. While each department has a chain of command, its individual culture may or may not look like any other within the network. However, it will share the mission of protecting life and property across the network.

Lichtenstein, Uhl-Bien, Marion, Seers, Orton, & Schreiber (2006) suggest there are two drivers of adaptive leadership: collective identity formation and tension. Collective identity formation occurs because agent interactions are governed by rules and mechanisms for changing rules. When interactions in leadership events produce a new identity, the fundamental form of rules changes. This identity formation occurs over time when participants collaboratively define "who we are" and what we are doing through our interactions (Lichtenstein et al., 2006, p. 5). Comparing the challenges facing the fire service, this is precisely what needs to occur if we are to redefine our "joint social identity" as first preventors who participate in gathering information that can be analyzed, evaluated and disseminated. In other words, the new role may begin with

EFOs explaining what you are supposed to do and why, but it must end with the firefighters at the station saying, "this is what we do" even in informal settings.

Experts assert that tension is the a driver of innovation which occures when the "interactions between agents spark tension that leads to adaptive change" (Lichtenstein et al., 2006, p. 5). Accordingly, the resulting tension can be attributed to a realignment of agents' cognitive maps. This process has been found to generate completely new information or, in the case of the fire service, discovering new techniques to deal with intelligence that could serve in changing its culture. Thus, just because the intelligence role is new or at times hard to accept does not mean it will necessarily be rejected. It can be a challenge to master rather than a burden to shoulder.

Meyer, Gaba, and Colwell claim organizational scientists and scholars fail to transcend the general linear models that suggest a pervasive assumption of equilibrium and linearity (2005). They believe that these assumptions have infused both theories of organization and prevailing research methodologies. They argue "beneath mainstream social scientific theories and research methods lies what Andrew Abbot calls "a general linear reality" (GLR)—a set of deeply held casual beliefs that treat linear models as representation of the actual social world" (Abbott 2001; Meyer, Gaba, & Colwell, p. 1), and this conceptual baggage is incompatible to the study of fields in flux[8]. The relevance of their findings is in how organizations will adapt because of non-linear change in organizational fields. They observed that when social systems are removed from their equilibrium, they did not demonstrate the expected hierarchical rates of change, but rather "changes unfolding at the level of a particular field, market,[9] or organization can outstrip rates of change at either lower or higher levels" (Meyer, Gaba, & Colwell, p. 9). Based on this theory, given proper motivation and training, fire departments across the nation will adapt to their expanding role, and they may surprise their own EFOs in how rapidly

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[8] The authors question what a social science not conforming to these mutually reinforcing beliefs, theories, and methods look like. To support this assertion, they focus their research on "organizational fields undergoing discontinuous change" (Meyer, Gaba, & Colwell, 2005, p. 2).

[9] "*Field*" and "*market*" are terms the researchers used to describe the hyper-turbulent healthcare sector.

they do so. Nevertheless, in the larger scheme, change can be encouraged when municipal policy leaders and EFOs recognize the cause and effect of adapting or not adapting to meet this critical gap.

Moreover, their studies demonstrate that non-linear changes stimulated collective action and those actions influenced the context that influenced them, resulting in an active role in processes of emergence. By inserting the fire service into this model; we can expect out of necessity, major urban fire departments will expand core functions to include intelligence actions. Subsequently the fire service as a whole will recognize the value, importance and necessity when it emerges as a contributing partner in the prevention of terrorism. During this transformation, undoubtedly there will be departments which continue to struggle with expanded responsibilities because they may perceive this role as a change in the fundamental mission that they are accustomed to. Acknowledging this phenomenon will be central to demystifying the term "intelligence" within the fire service.

Furthermore, the strategy of waiting for the law enforcement (LE) community to embrace the fire service as a true partner in prevention could mean the difference between a fully protected community and one that makes gross assumptions that its public safety network engages in a unity of effort.

B.   FIRE SERVICE—INTELLIGENCE

Although research about intelligence as it applies to three-letter agencies is plentiful, very little research about the fire services' indoctrination into the intelligence arena has been conducted outside the Naval Postgraduate School (NPS), Center for Homeland Security and Defense. Scholars and subject matter experts have researched the role of the fire service within the homeland security environment, and most acknowledge the pervasive need for intelligence to support the mission of the fire service (Blatus, 2008, p. 22; Cloud, 2008, p. 61; Heirston, 2009, p. 37).

There are several homeland security guidance documents regarding intelligence which underscore the emerging role of the fire service.

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The *2007 National Strategy for Homeland Security* notes, "State, local, and tribal governments...provide our first response to incidents through law enforcement, fire, public health, and emergency medical services" (U.S. Homeland Security Council, 2007, p. 4).

Similarly, according to the *National Strategy for Information*, incorporating counterterrorism strategies into fire departments' policies, procedures and operating guidelines, will enhance the nation's security capabilities as "First Preventers" and "First Responders" (White House, 2007, p. 3). Following 9/11, what formalized this expanded role was the Intelligence and Reform Act of 2004. Specifically section 1016 of the law mandated the creation of an Information Sharing Environment (ISE) and defined it as, "an approach that facilitates the sharing of terrorism information" (ISE, Program Manager, 2006).

To meet the aforementioned strategy, the Fire Service Intelligence Enterprise[10] (FSIE) was created to develop a national strategy for the fire service. To date, the *National Strategy for the Fire Service Enterprise* is considered the pre-eminent source for intelligence integration in the fire service. The strategy delineates that fire service personnel need ongoing support of intelligence products that include potential or actual incident threats so that EFOs can leverage resources toward preparation and response capabilities (DHS, 2008, p. 6).

Moreover, this document outlines strategic objectives for the establishment of a national network of fire service organizations that share information and intelligence. The initial structure included the participation of fifteen major metropolitan fire departments led by the Department of Homeland Security. Granted, the intent of this document - primarily for major urban fire departments - was to address national gaps of intelligence sharing across non-traditional partners and the development of new ones. For fire departments not participating in the pilot program, it falls short in its *national*

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[10] For more on this, "Viewpoints Podcast: 'Fire Service Intelligence Enterprise" from the Center for Homeland Defense and Security Web site: http://www.hsdl.org/hslog/?q=node/4922.

focus[11] and the absence of specific objectives addressing the challenges of organizational change or culture within a large metropolitan fire department.

Although most of the aforementioned operating principles are beneficial to the intelligence community, there are underlying assumptions unilateral information sharing already exists and that partners understand each other's intelligence needs. One theory for this gap is the debate whether firefighters or first responders should actively collect intelligence, regardless of the benefits to the fire service and their homeland security partners.

Of the research related to the fire service's role in the homeland security environment, there are several theses written by graduates at the Naval Postgraduate School's Center for Homeland Security and Defense. Most focus on the fire service's emerging role within the homeland security landscape and acknowledge the necessity for the transformation of the fire service to both a consumer and producer of intelligence.

Cloud identifies leadership and intelligence among several emerging issues facing the fire service and the asymmetrical threats surrounding the current homeland security environment (2008, p. 73). Additionally, Cloud suggests present fire service leadership is hampering homeland security with the lack of a unified mission and singular voice. Furthermore, she highlights the criticality for the current fire service leadership to "modify organizational culture and traditions that prevent homeland security" (Cloud, 2008, p. 75).

Cloud advocates that the fire service should engage in the practice of receiving and disseminating intelligence to both fire service personnel and the intelligence community (IC) (2008, p. 75), and advocates for the training of firefighters by the IC as a means to further their situational awareness by detecting potential terrorist activity. Arguably, the inclusion of the fire service in counterintelligence activities would be a natural extension of daily activities.

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[11] It should be noted that the FSIE is a work in progress. It is relatively new, and has intended to start small and grow. There is no data to suggest the FSIE intentionally disregarded volunteer, wildland or non-metropolitan fire departments.

Weeks proposes that the primary reason for intelligence gathering and analysis is to "avoid strategic surprise" (2007, p. 6). He argues that this is necessary for the protection of personnel and the maximum level of service to the community. Weeks also points out that fire service leadership should question the status quo regarding its strategic approach to terrorism and to further enhance the relationship with local law enforcement (2007, p. 7).

Most EFOs would agree that adapting strategies is necessary to meet the challenges of terrorism (Welch, 2006, p. 49). In Welch's thesis, she suggests that the current fire service paradigm has to shift toward terrorist preparedness and training. Furthermore, she notes the criticality for *that* change to come from within the fire service or it will be resisted and unsuccessful because of traditional and entrenched values supporting organizational culture (2006, p. 50). She identifies a common misconception among firefighters and presumably EFOs with tenure dating pre- 9/11, as the reluctance to believe that a terrorist act is likely within their jurisdiction. Unfortunately, research will show that this perspective is clearly perpetuated by EFOs who believe that their strategic objectives and resources should be focused on high frequency incidents rather than high-risk but low-frequency events such as terrorism.

Other research examined the training and utilization of fire service personnel as an additional resource for the intelligence community (Blatus, 2008, p. 37). In the thesis by Blatus, his research considered the effectiveness of training firefighters in "basic intelligence-gathering methods," and whether the integration of firefighters would "enhance or damage their standing as caretakers of the community" (p. 2). He concluded that utilizing the nation's firefighters to help identify non-traditional criminal activity is a logical step toward securing our homeland (p. 39).

By recognizing that the fire service is a critical public safety partner and the first line of defense for terrorism related incidents, EFOs who ignore the concept of fire service intelligence stand in opposition to several national strategies and the findings by the 9/11 Commission. A key commission finding in support of the new intelligence role

is the recommendation that agency leadership find a new way to organize its resources to achieve a "unity of effort" within the intelligence community (9/11 Commission, 2004, p. 399).

For EFOs, these theses validate the importance of incorporating intelligence into strategic objectives and the related necessity for change. Specifically, necessary changes to satisfy an intelligence objective include adapting training, pre-incident planning, and tactics so they address suspicious activities and define protocols for reporting them. Moreover, if the fire service is to follow these national strategies which suggest information gathering and sharing are critical to mission success, the benefit of change clearly outweighs the apprehension from firefighter and public safety leaders.

C.   FIRE SERVICE—STRATEGIC PLANNING

Strategic planning for the fire service generally centers around the paramilitary and hierarchical organizational structure which has been in place for well over 200 years. Facing today's homeland security uncertainty calls for rethinking the status quo with a hybrid organization offering one alternative to a hidebound hierarchy.

In Bryson's *Strategic Planning for Public and Nonprofit Organization*, the central premise of a traditional hierarchy is that the organization's top executive supplies the vision that guides strategic planning, policy, and the mission of the organization (2004, p. 298). Bryson's strategic planning is a top down model dependent on "effective leadership" which he asserts is central to its success. Without effective leadership, constituents struggle to grasp the context of organizational change as it relates to social, political, economic, and technical systems and trends (p. 298).

This top-down method has yet to yield results for the fire service when it comes to integrating intelligence functions into a given fire department. Evidently, the landscape of the fire service as a whole more closely approximates a networked model with various sizes of departments working with considerable autonomy as long as they can show that they are meeting the needs of their respective community. To foster collective leadership Bryson posits that, "when strategic planning is successful for public organizations, it is a collective achievement" (Bryson, 2004, p. 307). He maintains an effective method is to

use a ten-step process to "organize participation, create ideas for strategic interventions, build a winning coalition, and implement strategies" (Bryson, p. 32).

The scope of this type of strategic planning derives from a set of tools designed for executives to "think, act and learn strategically" (Bryson, 2004, p. 297). Such tools may be easy to wield and collectively embrace in settings where executives come from schools, work experience, or other pedigrees that place a premium on conformity and hierarchical acceptance. Law enforcement, for example, reinforces such attributes by promoting team players; however, the fire service prides itself on independent thinking and action. Consequently, it is more likely to develop firefighters whose maverick nature bristles at the prospect of sacrificing individuality. While such cultural attributes may have served EFOs well in a day when heroic rescues were enough, with today's expanded mission, the maverick mentality becomes more of a stumbling block than an asset— particularly in areas demanding new collaboration, such as intelligence. Herein lays the greatest challenge: teaching EFOs the criticality of collective leadership as a tool for strategic planning which would support intelligence functions.

Under the circumstances, the fire service may be more receptive to a different strategy, one whose approach to strategic planning focuses on the creation of uncontested market space or blue oceans (Kim & Mauborgne, 2005). This analytical framework proposes simultaneously differentiation in value and innovation as a means of overcoming competitors (Kim & Mauborgne, p. 16). For the purposes of the fire service, the introduction of intelligence functions would not be to eliminate competitors, but by tapping into this uncharted area the likelihood for potentially eliminating elements of strategic surprise may very well lead to a new, blue ocean strategy that incorporates intelligence.

Another variation to challenge the fire service's status quo would be the adoption of an organization founded on principles using the *Starfish and the Spider*: a flat hierarchy, devoid of formal structure, and operating under decentralized decision-making (Brafman & Beckstom, 2006). Brafman and Beckstrom use the starfish to illustrate how decentralized organizations often thrive without formal leadership or head, while a centralized organization, or spider, cannot function without its formal leader.

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A hybrid approach warrants further consideration as a networked model where each department decides how it will adopt intelligence functions within its ranks but, at the same time, still contributes to the overall progress of the fire service. Without considering and implementing practices rooted in such theories, EFOs limit their ability to transform entrenched, traditional fire service paradigms that stand in opposition to absorbing intelligence functions.

D.   RESEARCH QUESTION

This literature review has used organizational theory, intelligence policy analysis, and a hybrid model for strategic planning as lenses for examining the fire service within the homeland security environment. Despite national doctrine acknowledging the importance of introducing non-traditional partners in intelligence functions, the fire service is struggling with this new mission. This research aims to determine whether the fire service has evolved to participate and contribute to this mission.

While the researcher has several assumptions regarding why the fire service has not fully embraced the adoption of intelligence functions into its emerging mission, this study aims to uncover details that will equip EFOs to answer questions related to integrating intelligence principles and transforming their respective departments. One hypothesis is that there may be a disconnect between this expanded role and the rigid culture of the fire service. Alternatively, this research may uncover a correlation between effective role adoption and fire service leadership. Certainly there are external factors to consider, such as the sometimes turbulent relationship with law enforcement relative to sharing intelligence and security clearances.

In driving this line of inquiry, the main purposes of this thesis are to identify specific issues that undermine implementation and to address strategic initiatives to overcome this shortfall. Accordingly, research addressing the following questions should provide crucial insight for EFOs and government decision makers considering the expanded role of its local fire department personnel.

How can the fire service transform its current paradigm to one best suited to the demands of emerging homeland security intelligence and information sharing?

What barriers are impeding the adoption of intelligence functions?

1.   Benefactors and Future Research Efforts

Benefactors from this research will be fire service and homeland security leaders responsible for contributing to the prevention of terrorism through intelligence and information sharing. Leaders in the fire service will better understand their roles in homeland security intelligence functions that will contribute to preventing, preparing, and responding to terrorism.

Law enforcement and policy makers will gain insight to the cultural challenges and value of the fire service as they all continue to prepare for threat of terrorism.

Future research efforts should pursue the effectiveness of a continuing education program founded in homeland security curricula to address intelligence in the fire service. Likewise, a vast shortage of research invites future attention to fire service impact of the following trends:

- Terrorism awareness outreach programs
- Fusion center integration of the fire service
- Implications for civil liberties
- Suspicious activity reporting
- Intelligence policy implications

III. RESEARCH DESIGN

A. RESEARCH METHODOLOGY

This thesis derived its analytical support from a literature review and a Delphi method of surveys and interviews. Research began with the examination of relevant national strategies related to homeland security, intelligence, and the fire service. Next, subject matter experts[12] (SMEs) from the fire service were selected for their possession of relevant experience of intelligence practices and their involvement with fusion centers or similar, multi-disciplinary communities engaged in the process of sharing intelligence/information or counterterrorism efforts.

The Delphi panel size and composition reflected the limited availability of fire service personnel with this type of background. Selecting the SMEs began with the roster of the Fire Service Intelligence Enterprise Workgroup and the 2009 National Fusion Center Conference Attendee list. These two sources provided approximately fifty EFO to select from however, only nine chose to participate. While this sample size would appear low, in practice, informed analysts have stated that "the sample size varies...from 4 to 171'experts.' One quickly concludes that there is no 'typical' Delphi; rather that the method is modified to suit the circumstances and research question" (Skulmoski, Harman, & Krahn, 2007, p. 5). Other analysts, applying the Delphi method to policy issues, found useful sample sizes varying from 10 to 50 experts (Linstone, & Turoff, 2002, p. 82).

In following the Delphi method, the core group of SMEs would serve as a means to investigate and confirm the validity of the main premise of this thesis. The SMEs participated in three rounds of surveys consisting of open-ended questions to draw meaningful contributions and practical experience. It was through this process that researcher gained access to additional SMEs critical to this body of research.

The significance of these additional members was based on their participation in national fire service intelligence and homeland security initiates in the National Capital

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[12] Subject matter expert describes an individual who is an expert in a particular area, topic, or subject.

Region (NCR) that by default of their location, positioned these SMEs in proximity to the threat of terrorism on a daily basis. Likewise, their exposure to these challenges would glean success and failures in collaborative efforts to sharing information and intelligence that is paramount to understanding the barriers to fire service intelligence.

One of the SMEs serves as the Terrorism and Homeland Security Chair for the International Association of Fire Chiefs and is on the advisory committee for the Interagency Threat Assessment & Coordination Group (ITACG).[13] Another served as chair of the Fire Service Intelligence Enterprise Workgroup and co-chaired the National Capital Region Fire Chief Intelligence working group. While the third is the first firefighter detailed to the ITACG assigned to the National Counterterrorism Center. Because they fill critical roles in the fire service and participate directly with the national intelligence community, they clearly had practical experience that would contribute greatly to this thesis.

Each agreed to a personnel interview in Washington D.C. in the fall of 2009 that consisted of questions scripted from the original surveys but similar to the surveys, these open-ended questions allowed for unique perspectives while guiding the participants in a uniform manner. Following the interviews, their responses where coded along with the survey participants to formulate common themes and as the basis to generate each additional round of questioning.

This research method was best suited to collect original data from individual respondents about "perceptions, attitudes or beliefs" (Thomas, 2006, p. 3) related to the issue of fire service intelligence implementation. Most importantly, their practical experience and opinions where gathered with the intent to determine the relationship between fire service leadership and the deep challenges of adapting a rigid culture to meet the emerging intelligence mission.

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[13] For information regarding the ITACG see Chapter V or http://www.ise.gov/pages/partner-itacg.html.

B.   RESEARCH LIMITATIONS

Although the fire service includes over 30,000 fire departments, the most actively engaged or challenged EFOs operate in major urban fire departments. These EFO's subsequently have a higher likelihood of exposure to terrorism and correspondingly will have exposure to a state or regional fusion centers and challenges related to intelligence/information sharing. Thus, major urban fire departments supplied all of the SMEs while no volunteer EFO were included in the research group.

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IV. TRANSFORMATIONAL LEADERSHIP

Today's American fire service must contend with a dynamic and asymmetrical threat environment compared to the typical response requirements from as recently as within this decade. To meet the challenges of urban terrorism, the core functions of the fire service continue to expand and evolve beyond the normal arena that encompassed standard life safety capabilities. In response, fire leaders are called to identify gaps and develop strategic planning that leverages available resources to provide the highest leave of readiness.

Within this framework, Executive Fire Officers (EFOs) have responded by shifting the focus of training from skills necessary for basic fire core functions to those geared toward the enhancement of operational capabilities to mitigate incidents of weapons of mass destruction. Unfortunately, Executive Fie Officers have not put equal efforts in the collaborative process of information gathering and sharing with law enforcement or non-traditional partners. Additionally, the leadership of the fire service has not embraced concepts typically considered intelligence functions that would clearly contribute to their situational awareness and operational readiness.

To adopt intelligence functions and policies that are necessary tools for the metaphoric tool chest and in an effort to reform the culture of the fire service, EFO must capitalize on novel leadership styles that inspire "change agents" committed to valuable and positive change within their organizations. Some theorists suggest a transformational leader is charismatic and that leadership is a critical driving force for change. Likewise, "leadership has always been a desirable model and major contributor to progress in many cultures" (Waite, 2008, p. 2).

Firefighting as a profession requires individuals to face life and death decisions at a moment's notice. In the heat of the moment, a firefighter expects the leader to make judgment calls that mitigate personal risk and introduce order into chaos. During these situations, charisma alone will not overcome a deficiency in trust between leader and subordinate. The leaders firefighters are most inclined to follow are those who repeatedly

demonstrate sound judgment in life-or-death situations and who build strong bonds of trust along the way. Consequently, if the fire service is to overcome subordinate resistance to making the transition from first responder to first preventer, the logical strategy is to associate the change to situations involving life and death in a way that the most respected EFOs are seen to embrace. This strategy offers the best opportunity to leverage traditional cultural bias in overcoming equally traditional resistance to institutional change.

Crisis leadership demands that members have an awareness of their organizational culture and the relationship to decision making during a crisis (Willett, 2008). If the organization empowers others to make decisions in the service of a higher mission—and even to make mistakes—then this organization will produce leaders who think for themselves and act for the greater good of their teams and organizations. The shift in focus from first responder to first preventer demands precisely such leadership, which in turn requires a philosophical transformation.

Transformational leadership begins with a vision that sets realistic objectives, offers clear guidance, and supplies an effective organization to set in motion necessary strategic initiatives. Considering that the traditional core mission of the fire service focuses on life safety, property conservation and environmental protection, it is imperative to expand the mission to adapt and acknowledge additional responsibilities like the role of intelligence sensor (Blatus, 2008). Redefining the mission statement then becomes not only a clear acknowledgement of adapting to the post-9/11 threat environment, but also a recurring reminder that today's firefighter no longer has the option of focusing exclusively on yesterday's mission. Expanding the mission statement becomes an important step in the direction of seamless transition from first responder to first preventer.

While the average American citizen has been bombarded with news of real and potential terrorist threatening the homeland, the fire service has continued to face unabated demands for service in ways that make it easy to return to a business-as-usual mind set. Consequently, if the fire service is to adapt to remain vital and successful it needs to cultivate a deliberate, purposeful understanding of the implications of terrorism

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to its mission. This understanding, in turn, will enable the fire service to embrace on a professional level the kind of paradigm shift that the citizenry have realized on a personal level (i.e., that post-9/11 America is a different, more dangerous world).

Culturally, the fire service sustains a tradition of developing leaders through on-the-job training and promotional examinations unique to each department or jurisdiction. The premise is that each time fire officers are put in harm's way, they intuitively acquire knowledge from making split-second, complex operational decisions. Likewise, the presumption is that exposure to and experience in adapting to dynamic and exigent circumstances produces capable fire officers who are equipped and prepared for action. While the U.S. fire service has evolved from trade to profession, the industry rarely requires that executive fire officers pursue formal education to validate this evolution.

The benefit in incorporating formal education into the profession goes beyond giving fire officers a broader understanding of the threat environment. Professional education improves fire officer grasp and implementation of department policy and procedures. It also provides context and strategies for navigating across political dimensions of any complex institution. Furthermore, while the existing culture produces leaders that are comfortable with handling life-threatening situations as a matter of routine, the service does not necessarily equip leaders with the skill set to pursue institutional change.

One expert in behavioral science at the United States Military Academy suggests that leading in a "life or death" situation is different from managing in mundane circumstances, although good leaders share some universal traits (Kolditz, 2007, p. 20). Kolditz identifies those who lead in high-risk situations as *in extremis* leaders. He asserts that *in extremis* leaders must rapidly contend with an external environment, acquire relevant information and make decisions based on how the situation evolves and the level of danger they are facing (Kolditz, p. 20). He sees the identical motivation animating both leaders and followers, because of their shared risk and high level of mutual trust.

In the fire service, leaders must capitalize on these theories and begin by moving away from transactional leadership toward transformational leadership. The former

focuses on immediate problem solving, as in responding to an emergency, while the latter focuses on the longer view and wider perspective necessary for anticipating or preventing emergencies.   Indeed, it is this transformational leadership that prioritizes intelligence functions as a necessary implement in the fire officer's tool chest. The bridge between the two kinds of leadership is their linkage to life and death situations, which constitute the familiar comfort zone of the fire officer.

While most significant incidents require ongoing assessment, the reality is that knowledge prior to an event is even more valuable and can make the difference between saving lives with minimal exposure of rescuers or placing rescuers in grave peril without being able to save victims in time. It is the difference between evacuating all occupants of a building on receiving early warning of a likely gas leak, as opposed to saving none of them after the gas has permeated the building and been ignited by a smoker.

Most EFOs have not fully accepted that the fire service should perform intelligence functions when there remain other resource demands. Consequently, fire service intelligence receives little or no priority, hence its influence on operational readiness continues to be underestimated.   As a result, this attitude undermines national initiatives like the FSIE and also limits active fire service participation in fusion centers.

To overcome this mind-set, EFOs need to recognize the situational awareness value that intelligence offers prior to and during a terrorist event. EFOs must also lead fire officers in taking on the role of first preventer. Once EFOs themselves see how fire service-originated or -shared intelligence can prevent fatalities from a terrorist attack, they can identify champions within their departments to embrace the first preventer role and overcome institutional resistance.

A by-product of this transformation would be the basis for engaging in multi-sector partnerships. When EFOs question whether incorporating terrorism awareness and reporting suspicious activity fall within the public safety mission, they risk compromising the safety of the firefighters expected to be the front line of protection. To accomplish this transformational paradigm shift, the fire service needs a common purpose to become all-hazards public safety leaders—first preventers - or the fire service will essentially be

left behind. In changing this mind-set, EFOs must convey purpose and direction by articulating their vision. Absent this clearly communicated vision, future initiatives will capsize shortly after launch.

Transparent transformation begins with educating EFOs that situational awareness and safety are enhanced by adopting intelligence principles. As their collective attitudes change, the natural progression is that their departments will follow and, likewise, firefighters become more receptive and willing to embrace these practices. The resutling force-multiplier[14] produces a safer communty, a better prepared fire department, and enhanced collaborative relationships with law enforcement and intelligence agencies who collectively deter terrorist activies.

A.   EXECUTIVE FIRE OFFICER DEVELOPMENT

As fire officers advance through the ranks to positions responsible for policy development, or the Executive Fire Officer level, they face opportunities to remain within the current culture and status quo or to explore new directions and take leadership risks. Though EFO and leadership appear to go hand in hand, this does not mean all fire officers who become EFOs are leaders. Nevertheless, fire departments rely on the promotional process to identify, nurture, and develop those with leadership potential. These promotions, when combined with formal education, prepare candidates for a critical homeland security role.

Attitudes and beliefs that mirror current fire service culture must be challenged and should be adapted to align with the demands facing chief officers as homeland security leaders. "Homeland Security Leader" is a title that many fire service officers resist, universally arguing, "That's not what I signed up for." However, a quick review of the recent history of unprecedented calamities suggests otherwise. The reality is that fire officers who enter the field as contributors to public safety can no longer ignore the

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[14] Force multiplier, here, is adapted from the military term that denotes a capability that significantly increases the potential of a given force, thus enhancing probability of success. Refer to www.TheFreeDictionary.com for a current definition of this term.

evidence that the role of the fire service has expanded. A chief today could legitimately counter, "If you are an active fire service leader and are still drawing a paycheck, this is precisely what you did sign up for."

As recent history has indicated, acts of terrorism and induced or natural disasters are unpredictable. They expand exponentially, and can quickly become unmanageable. Most agree "responders are responsible for intervening before and during such events, to minimize the harm disasters cause and to restore order" (Donahue & Tuohy, 2006, pp. 2–3). Regardless of their cause, large-scale incidents rapidly overwhelm local resources and test local government's ability to implement the Incident Command System (ICS). Yet the core of ICS includes acknowledging the criticality of multidisciplinary collaboration and the exchange of intelligence or information.

Furthermore, to enhance the fire service's introduction and mastery of fire service intelligence, major urban departments must collaborate in crafting specific programs structured to expose fire service leaders to the wider homeland security arena. The absence of strategic initiatives to address this gap can no longer excuse self-imposed obsolescence. Instead, the fire service has a duty to develop standard curricula that support each department's promotional process similar to how the National Incident Management System (NIMS) training became a requirement for incident management across the country (White House, 2003, p. 3). Moreover, the value added by undertaking a structured curriculum that increases exposure to the intelligence machinery and affords hands-on experience can be readily associated with minimizing the effects of terrorism and supporting the expanded fire service mission.

One theory within the fire service is that there remains a lack of understanding of what role fire fighters play in the homeland security enterprise. As evidence, one need only examine fire department training course offerings, forums, Web sites, research papers, and conference announcements, as captured in the National Fire Academy's database. In all of these repositories and representations of fire service expertise, intelligence is noteworthy only for its absence or near invisibility. The current paradigm

of relying on tactical experience as the basis for identifying future chief officers affords virtually no incentive to stay current and develop new knowledge and skills that keep pace with the fire service's evolving mission.

Consequently, this obsolete, archaic tradition in essence devalues education and innovation, while cementing resistance to change and, even worse, increasing potential opportunities for failure. Without a purposeful shift away from this dogmatic paradigm, future chief officers risk certain, catastrophic failure to meet as yet unforeseen threats. On the other hand, if the paradigm shifts in favor of evolving to adapt to emerging threats and to keep pace with the expanding mission of the fire service, then departments making this evolutionary leap will demonstrate their commitment to preparing their leaders and better positioning their agencies to be a critical partner in today's homeland security environment.

One place to look for answers is with critical thinkers from the emerging field of homeland security. In taking his own question as an analytical challenge, namely, "Changing Homeland Security: What Is Homeland Security?" one observer identifies at least seven defensible definitions, which he refers to as "ideal types" (Bellavita, 2008, p. 1).[15] He adds that each definition is rooted in an interpretation that supports a set of interests found in a particular homeland security niche (Bellavita, p. 10). He further suggests that there are arguments to support both a singular definition and a combination of the definitions (Bellavita, p. 21).

Bounding the definition of homeland security limits the practical application of prevention, preparedness, response, and recovery across disciplines and in particular the fire service. Comparatively, the 2007 *Homeland Security Strategy* definition of homeland security suggests homeland security is everyone's responsibility: "Homeland Security is a concerted national effort to prevent terrorist attacks within the United States, reduce America's vulnerability to terrorism, and minimize the damage and recover from attacks that do occur" (U.S. Homeland Security Council, 2007).

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[15] Bellavita (2008) explains that he is using "ideal types" in the contexts of Max Weber. His intent is, "to characterize the central features of a particular type" (Bellavita, 2008).

Today's homeland security environment provides an excellent opportunity to implement a structured course of action for the cultivation of the fire service geared toward protecting the homeland. Albeit as a precursor to institutionalizing a training curriculum, this will become the norm rather than an exception. As one researcher asserts, "learning is, at its core, a process of growth; thus a successful learning process requires a commitment to change" (Donahue, 2006).

A common assumption about adult students is that they only learn if they are motivated (Argyris, 1991). In the fire service, the primary catalyst for motivation comes in the form of meeting grant requirements to support state or federal standards. This top-down mandatory training perpetuates a narrow strategy to learning, rather than a proactive one, and tends to focus on training to support equipment acquisitions. Of course, this is not to discount the importance of grant funding to support a department's operational readiness. However, if the only reason for fire officers to pursue new education is to ease financial burdens of their fire department, the learning will stop with the cashing of the last grant check. At some point EFOs need a strategic vision that regards learning not as the means to a near-term monetary reward but as the long-term edge in surviving the next challenge in a constantly changing and dangerous environment.

According to a comparative analysis of the fire service's espoused "theory-of-action" contrasted with its "theory-in-use," (Argyris, 1991)[16] EFOs have vast, yet inconsistent levels of training and experience. Thus, if EFO proficiency and comfort with intelligence functions appear inconsistent, it would seem that these functions exist on a field where they roll from the opposing goal posts of theory-of-action and theory-of-use, depending on the individual EFO. A logical step to overcome this dysfunctional oscillation between theories is for fire officers to gain a common understanding of what the role of the fire service is in the homeland security enterprise. In particular, if they can first obtain and then articulate a common grasp of its underlying dependence on non-

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[16] Argyris explains that there is a paradox between the espoused "theory-of-action,"—or what people think they do—compared to "theory-in-use," what they actually do (1991).

traditional partners and a shared responsibility for public safety built on trust in mutual competency, then EFOs will be able to instill an appreciation of intelligence in their own ranks.

1.   What Are Other Departments Doing?

As a basis for comparison, Table 1 Comparative Analysis from the West Coast Seven depicts an overview of the promotional processes for developing chief officers and the municipal hierarchy for emergency management (Gonzales, 2008, p. 8). The data was acquired through a survey sent to comparably sized urban fire departments located within the western region of the United States and referred to as the "west coast seven."[17] Fire departments were asked several open-ended questions regarding promotional process, requirements and the emergency response hierarchy for their jurisdictions. The researcher found that some of the questions turned out to be too vague and did not produce expected results around the issues of collaboration via the existence of a homeland security division or through emergency management. Nevertheless, there was ample data to interpret about the educational and training requirements for promotion to the chief officer level.

Table 1.   Comparative Analysis from the West Coast Seven (After Gonzales, 2008, p. 8)

Department	Criteria for Promotion to Chief Officer	Overview of Promotional Testing Process	Assignment Rotation	Formal/Informal Chief Officer Training	Homeland Security Division	Emergency Management Lead Agency
Portland Fire & Rescue	2 ½ yrs as Cpt.	Assessment Center & Resume	Yes, not on regular basis	Informal	Special Operations Chief	Portland Bureau of Emergency Management
Oakland	4 yrs exp Lt. & Cpt.	Written Exam and Assessment Center	Attrition and Succession Planning	Formal during probation	Assignment to HLS duties	City of Oakland OES
San Diego	2 yrs exp Cpt.	Written Exam and Assessment Center	Every 2-3 yrs	Unknown	Office of HLS	Sam Diego Fire
San Jose	4 yrs exp Cpt. College credit decrease to 2 yrs	Unknown	Bidding process	In development stages	Office of Emergency Management	Office of Emergency Services

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[17] The "West Coast Seven" is a term used to identify the seven comparable fire departments located on the west coast used in labor negotiations between the city of Seattle and the Seattle Firefighters Union Local 27 (Gonzales, 2008, p. 7).

Department	Criteria for Promotion to Chief Officer	Overview of Promotional Testing Process	Assignment Rotation	Formal/Informal Chief Officer Training	Homeland Security Division	Emergency Management Lead Agency
Long Beach	3 yrs s Cpt.	Written, Tactical Simulation, Oral Boards	Various assignments	Chief Officers Continuing Ed. Program—not implemented yet	Disaster Management Bureau	Long Beach Fire
Seattle	3 yrs exp. Cpt. College Degree decrease to 2 yr	Written and Oral Board plus service credits	Every 3 yrs	None	Risk management	Office of Emergency Management

One conclusion drawn from the data clearly confirms that Seattle Fire is not unique in its lack of educational requirements or formal training for chief officers. Although, the data indicates a common theme of an inconsistent promotional process to select future leaders, what stands out is the premise that upon being promoted to chief officer, departments essentially abandon their professional growth with the lack of required continuing education or training during probationary periods or once they have the "*bugles.*" A sampling of these departments also indicated that their departments don't have a division or members focused on homeland security efforts nor do they require any formal education or training of EFO to support homeland security initiatives.

Formal and informal training was another area that proved inconsistent across the group. While some departments have formal training during probation - most did not, the probation period is inconsistent. San Jose Fire reported that a formal training curriculum is in development, and only one department—Long Beach Fire—has a formal training program called the Chief Officers Continuing Education Program or COCEP which had yet to be implemented at the time of the survey.

The survey results also show that all departments use a formal promotional process to select chief officers, yet differ in process design. For example, Portland Fire and Rescue (PFR) selects chief officers by using an assessment center that does not include a written exam. Portland's chief candidates participate in the assessment center followed by an interview with the chief of the department, during which the candidates present a resume.

What conclusions can be gleaned from this data? As an industry, the fire service continues to depend on "on-the-job" training founded in tactical experience. More

important, there is a gap in structured training of chief officers that is contrary to the expectation for local fire departments to engage in advance readiness activities that support the larger *National Strategy for Homeland Security.*

Transforming organizational culture relative to formal education and training is a difficult and enormous undertaking; however, the adage, "change starts at the top" is most evident in an industry founded on a paramilitary structure such as the fire service. Before design and implementation takes place, an important question to consider is, does the fire service need another all-encompassing doctrine or set of regulations and operating procedures based on prevailing attitudes toward terrorism prevention and intelligence?

Clearly, this would not benefit the larger homeland security enterprise, nor would this meet the intent of fire service intelligence. It is the responsibility of the fire service to draft the precept delineating the first preventer model focusing on counterterrorism directly and indirectly, which in turn provides chief officers with the latitude to be innovative in creating this curriculum. By tapping into the collective experience of EFOs working collaboratively with law enforcement or other partners engaging in intelligence and information sharing would be an excellent starting point in defining what chief officers need to know.

The fire service must make an institutional commitment to continuing education that promotes learning as a means to prepare EFOs. Experience cannot be ignored or discounted, however experience with education is more effective. A change in the promotional process is the foundation for future design of a continuing education program. By using a best practices approach in its delineation and incorporating a learning process using military-style →crawl→ walk → run structure, the department would make positive strides toward the elimination of lessons we fail to learn.

Designing a formal chief officer development program using a model, that "produces strategic decision makers, planners, and advisors whose expertise is defined

less by narrow knowledge and arcane technical and operational detail" (Foster, 1996) would result in a value added investment for the fire service as a whole. Education should be a consideration for promotion.

Formal or informal, without an educational requirement for promotion, the fire service will risk being left behind while the homeland security enterprise continues to roll. The value added by undertaking a structured curriculum designed to increase exposure to the intelligence machinery and hands-on experience is the cornerstone to minimizing the effects of terrorism and subsequently supports the expanded mission of the fire service.

B.   MULTI-ORGANIZATIONAL LEADERSHIP

In the book *Megacommunities*, the role of the initiator cannot be understated. An initiator can make the difference between a transformative approach that is successful and sustainable and the demise of such an emergent issue. While initiators are necessary to getting a megacommunity off the ground, they are extraordinary at building network capital (Gerencser, Lee, Napolitano, & Kelly, 2008, p. 121). The utility of megacommunity thinking equates to the call for some profound adjustments in attitude on the part of participating individuals, especially those in active leadership or liaison roles (Gerencser et al., 2008, p. 82).

A by-product of this transformation would be the basis for engaging in multi-sector partnerships to overcome barriers of adopting intelligence functions in the fire service. This mindset underscores the need to detangle some deeply entrenched and ingrained habits of thought (Gerencser et al., 2008, p. 82).

To engage in a multi-organizational strategy, EFOs must start by addressing cultural and institutional barriers to fire service intelligence functions. While acknowledging there is internal and external opposition, the most prudent place to start is to transform the fire service culture by demonstrating the value proposition of adopting this discipline. Because intelligence has been law enforcement (LE) centric, even while the LE community evolves from a criminal centric policing to terrorism related activity, there is no greater need than now to include the fire service

An equally important aspect of multi-organizational leadership is using a tri-sector approach to positive effect. In the "*megacommunity framework*," collaboration begins by identifying counterterrorism and information/intelligence sharing as a common interest across both law enforcement and the fire service sector. Both industries need to recognize the complex interdependency of preventing terrorism, regardless of historical non-involvement by firefighters. Though this relationship is critical to the process, today's dynamic threat environment requires a holistic strategy that also includes civilian participation. By extending participation in this way, first responders demonstrate their understanding that terrorism defense and homeland protection are not only their problem to solve but a responsibility shared universally with all citizens of their communities.

1. Tri-Sector Engagement

The authors of *Megacommunities* assert that the convergence of multi-sectors creates tension that is necessary for balance (Gerencser et al., 2008). Specifically, when managed properly, megacommunity principles create a dynamic tension between sectors that enhances their ability to handle overlapping vital interests (Gerencser et al., 2008, p. 56). For example, Seattle Fire, Washington State Troopers and the Washington Department of Transportation (WDOT) share motor vehicle accident responses on Interstate 5 through downtown Seattle, but each agency has unique operational requirements. For a motor vehicle accident, Seattle Fire is focused on the medical emergency and packaging the injured in a safe and efficient manner which requires closing a minimum of two lanes. The lane or lanes the motor vehicle accident has occurred in and an additional lane for safety or a buffer zone. Troopers need to secure the scene and conduct an accident investigation while fire is evaluating and preparing the injured for transport. WDOT workers, on the other hand, are concerned with clearing the highway as it is a major thoroughfare for commerce and the public. When all three entities discuss their various proclivities and operational requirements in the context of a combined response, each can learn from the other, pose scenarios that the other may have not fully considered and arrive at a shared understanding of how they can complement

each other to meet their respective missions without undue interference. The tri-sector engagement in terrorism prevention and defense can similarly engage the fire service, law enforcement, and citizens.

While the process of sharing information will primarily fall within the law enforcement and fire service legs of the megacommunity triangle, these disciplines must recognize that to be true to the larger mission of securing the homeland, they alone cannot completely deter nor protect the American people without engaging other sectors.

The public's assistance in recognizing suspicious activity is invaluable and a necessary force multiplier in a landscape where there are never enough first responder eyes and ears to detect every warning sigh. By including this sector early in the process, EFOs can minimize negative law enforcement reactions to firefighter participation. After all, if the public is recognized as a necessary partner, it is hardly defensible to exclude the fire service from intelligence collaboration, since fire fighters are responders and members of the non-police public. Additionally, inclusion will have positive returns by generating political support in the best-case scenario. Conversely, an engaged citizenry supplies feedback for both the positive and negative implications of approaches to this shared problem. Without public involvement, there is very little chance that intelligence initiatives will sustain lasting political support or funding.

Engaging citizens to be diligent in reporting suspicious activities in their communities will undoubtedly enhance the value of terrorism awareness. Any preventive strategy is doomed to failure if citizens have no role to play and, instead, rely exclusively on the vigilance of their responder community. Moreover, if fire departments are to become partners in anti-terrorist activities through awareness and reporting, informing their communities prior to full implementation of these practices is critical. Averting resistance to preventive measures and negative reaction to perceived infringement of civil liberties requires a coordinated public education campaign. The focus of such a campaign would be delineating the process for firefighters to carry out their new intelligence duties without doing so at the expense of the bond of trust between average citizen and firefighter.

There are several examples of successful outreach programs domestically and internationally. In New York City there is the, *If You See Something, Say Something* campaign, which includes a toll free number to report suspicious activities (New York State Office of Homeland Security, n.d.). Additionally, the state of New York Office of Homeland Security has developed publications geared toward the public as well as several disciplines beyond public safety.[18] Arizona boasts a similar campaign for citizens to report suspicious activity to the Arizona Counter Terrorism Information Center (ACTIC). ACTIC also recognized the value of information from citizens to provide leads to police on terrorist activity. In fact, ACTIC collaborated with the Phoenix Fire Department to create the video, "8 Signs of Terrorism" (ACTC, 2008–2010).

In Colorado, Governor Ritter unveiled "Recognizing the eight signs of terrorism," a video produced with grant funding by the Department of Homeland Security, to educate the Colorado citizens on their shared responsibility of recognizing terrorist activity (DHS, 2009). "The vigilance of individual citizens is critical to protecting our country from the threat of terrorism," said Secretary Napolitano. "This video provides essential information on how to identify the warning signs, and emphasizes the vital role of such assistance in state and local law enforcement's counterterrorism efforts" (DHS, 2009).

In Lancashire County, England, the constabulary succeeded in promoting community awareness on the nature of terrorist threats by making effective use of a national handbook (DHS, 2009). On the one hand, Lancashire gained notice as a geographic "hotspot" for terrorism and also as a challenge to local authorities because of negative public reaction to local policing tactics (DHS, 2009). However, the Lancashire constabulary turned around negative perceptions through successful public outreach programs. Using the same handbook developed by the Home Office and successfully put into practice in Lancashire, local law enforcement can implement a similar *Prevent*[19]

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[18] The New York State Office of Homeland Security has outreach brochures for fire/EMS, maritime, mass transit, and agriculture.

[19] For further information on the *Prevent* strategy, see the Lancashire Constabulary Web page: http://lancs.netefficiency.co.uk/index.php?id=5274.

strategy by engaging members of the community in awareness programs as a step in the direction of increasing jurisdictional support for community policing initiatives against terrorism (DHS, 2009).

Through the *All Communities Together Now* (ACT Now) program, *Operation Topcat,* and *Not in My Name I* the Lancashire Constabulary relied on active participation of several ethnic and faith-based community groups to breathe life into its outreach programs (DHS, 2009). As a result, citizens who were on the point of demanding police resignations became transformed into the staunchest advocates of the same officers. Yet none of the personalities of citizen or defender had changed. Instead, the success followed a change in how police began to engage their fellow citizens. Ultimately, the success of the community outreach program was attributed to the newly trained officers' level of awareness of cultural differences within their communities (DHS, 2009).

In the larger scheme of things, within any megacommunity it takes ongoing negotiations with all sectors to sustain constant stakeholder engagement (Gerencser et al., 2008, p. 100). As formal processes are established defining roles, responsibilities and expectations, the element of negotiation preserves the innovative and adaptable nature of a megacommunity (Gerencser et al.).

Key to adopting intelligence functions into the fire service is moving away from a strategy with a single sector point of view. The evolving strategy will contribute to the inclusion of existing networks and add diversity of perspective to information or intelligence. Social network analysis has shown the value of diversity whereby communities which tap into differences are generally more successful compared to those which cling to homogeneity. At Stanford University, Granovetter's studies of network theory found that "weak ties" (or casual and temporary acquaintances) in a network introduce information not normally available and, subsequently, those with robust networks of "weak ties" are profoundly more informed (Gerencser et al., 2008, p. 72). Moreover, this type of network becomes highly adaptable and "scale-free" (Gerencser et al., 2008, p. 73).

C.   STRATEGIC PLANNING

In the aftermath of the terrorist attacks on September 11, 2001, several federal initiatives emphasized the importance of cross collaboration between government agencies. Though most initiatives highlighted the critical need for multi-disciplinary coalitions, a consistent objective remained arriving at improved homeland security by stimulating collaboration of non-traditional partners.

In that vein, major urban fire departments have an obligation to develop systemized strategies to deal with terrorism and disasters by ensuring that chiefs understand these strategies and put them into practice. As echoed by participants of a focus group providing emergency responder perspective on this issue, one fire chief lamented, "It's terrorism, terrorism, terrorism…and I can't use my resources for the things I know I'll face. So how many major non-terrorism incidents do we have to have before DHS gets us resources for other things than WMD?" (Donahue, 2006, p. 10).

Most EFOs see terrorism prevention as a waste of valuable and limited resources, because they overlook the potential that terrorism awareness may contribute to operational readiness. They certainly miss the connection that an all-hazards approach to preparedness is founded on the observation that "building capacity to deal with the most probable events will increase capacity to deal with less probable events" (Waugh, 2004).

The fire service's mission of life safety and property conservation dates back to the late 1800s.[20] Over the past 30 years, the mission has embodied strategies for preparedness, response, and recovery to acts of terrorism. Only recently have first responders been included in the preventive discussions of thwarting terrorism. Following 9/11, what formalized this expanded role was the Intelligence and Reform Act of 2004. Specifically, section 1016 of the law mandated the creation of an Information Sharing Environment (ISE) and defined it as, "an approach that facilitates the sharing of terrorism information" (ISE Program Manager, 2006).

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[20] Benjamin Franklin is credited with establishing the first fire brigade in Philadelphia, called the Union Fire Company, on December 7, 1735 (ushistory.org, 1999–2010).

An important aspect of the ISE is the recognition that the informational needs of state, local, and tribal entities expand as counterterrorism and homeland security activities are integrated into daily missions. To that end, the fire service has historically been a consumer of intelligence. Moreover, access to "timely, credible, and actionable information and intelligence" has generally been slow or non-existent, despite its crucial role for public safety and maintaining a fire department's state of readiness (ISE Program Manager, 2006).

In contrast, the ISE Program Manager envisions a fire service better served by reconsidering its role within homeland security and pursuing a strategy that anticipates the need to transition from traditional first responder toward the more progressive role of a first preventer. Creating the capacity to gather, assess and analyze relevant information and subsequently share it with law enforcement or local fusion centers magnifies conflict between firefighters and the law enforcement community. At the administrative level, EFOs must contend with LE peers who have chronically resisted inclusion of the fire service as a partner in intelligence (confidential personnel communication, September 24, 2009). Overcoming this inter-organizational chafing means being able to witness meaningful collaboration at the local level—the kind of change that must evolve over time in order to take hold, rather than the kind attainable solely by mandates of executives.

In their book *Blue Ocean Strategy*, analysts Kim and Mauborgne (2005) offer a systemic approach to strategic planning that focuses on the creation of uncontested market space, or "blue oceans." Their analytical framework proposes simultaneously pursuing differentiation in value and innovation as a means of making one's competition irrelevant (Kim & Mauborgne, 2005, p. 16).

In the context of the fire service, a blue ocean posture is the undefined value from integrating fire service networks with non-traditional partners while incorporating terrorism awareness strategies. This shift from the supply side—*the fire service's role in first responder preparedness, response and recovery*—to the demand side—*how public safety can be enhanced as a first preventer*—reframes the *market* of the fire service's

mission. Ultimately, this transformation equates to redefining how the fire service conducts business and how its role evolves within the greater homeland security mission of terrorism prevention.

Figure 1 offers a visual depiction of the value innovation possible in such a transformation. The horizontal axis depicts the factors the fire service must contend with, and the vertical axis captures the degree of effort or investment to accomplish the specific strategy. The strategy curves correspond with the differences.
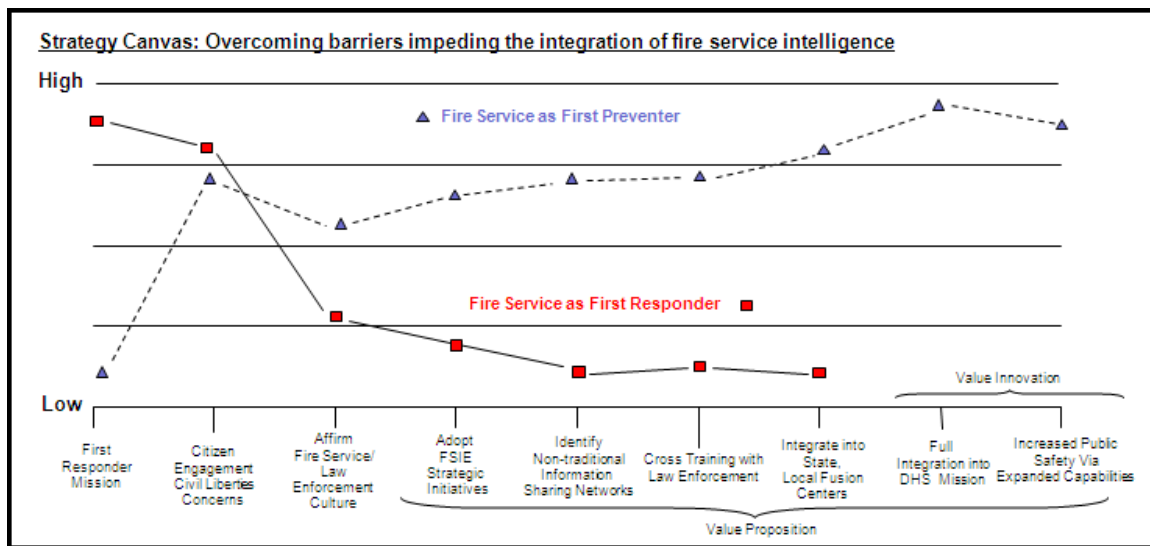
Figure 1.   Strategy Canvas (After Kim & Mauborgne, 2005)

While the status quo for the modern fire service is to operate using a red ocean strategy as a first responder, a blue ocean strategy would be the fire service functioning as a first preventer.

Figure 2 depicts the six main principles that drive the formulation and execution of blue ocean strategy. The first four principles address blue ocean strategy formulation. The remaining two principles address the execution risks of blue ocean strategy.
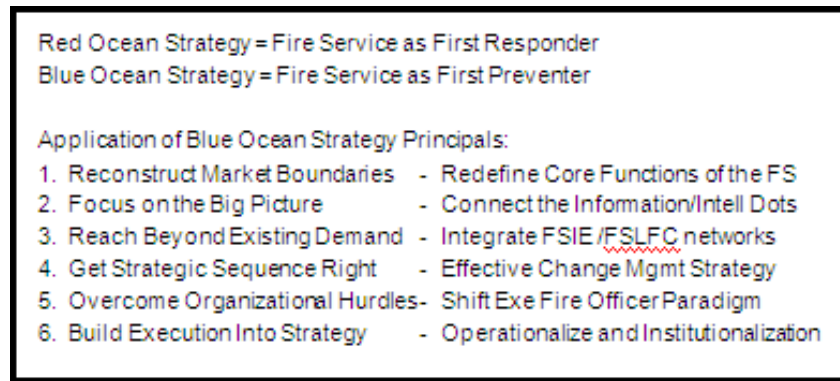
Figure 2.   Blue Ocean Strategy Principles (After Kim & Mauborgne, 2005)

While actionable intelligence is necessary for situational awareness of ongoing incidents, "the fire department needs timely and reliable information about preventive measures that other agencies, disciplines, and levels of government have taken, or plan to take" (DHS, 2008, p. 20)." In this context, it becomes imperative that the fire service develop a machinery to meet this need. Without this information, EFOs will continue to make decisions in isolation and perpetuate the adage that HLS leaders operate in silos.

By developing the machinery to bilaterally communicate intelligence at the local level, major urban fire departments will automatically forge relationships necessary to stay informed about decisions by homeland security partners that could affect service delivery. Law enforcement is more conversant with intelligence principles and practices, so they would be a natural resource for training, assisting in policy development, and providing support to fire departments with methods for identifying and reporting terrorist activities. Likewise, understanding that the fire service has unique intelligence needs and adopting initiatives to support them provides law enforcement an opportunity to develop public trust and enhance public safety.

While intelligence collaboration is readily apparent to participants in federal work groups and task forces, urban fire departments need more convincing that an exclusively top-down approach or federal mandate. Although the FSIE has defined several important documents that present best practices, each fire department or network of departments needs the benefit of a strategy designed by the local and regional partners who will have to implement such a strategy. The essential difference that this approach

offers is in giving frontline fire fighters a more obvious connection to immediate benefits in expanded capabilities and some kind of yardstick that allows them to gauge progress in attaining such capacity.

Additionally, because major urban fire departments make better terror targets based on urban population density, location of financial markets, and availability of critical infrastructure hubs in urban centers, the urban departments should assume the lead for smaller and volunteer departments within their region. When taking a top-down approach as the FSIE, at times it seems as though the concepts created by the work group have a tendency to get watered down once the drafts have run through several federal stakeholders and the volunteer core of the fire service. As a result, what may look good on paper proves difficult to implement, particularly if there is limited buy-in or support from local stakeholders.

In comparison, an organization founded on principles described in the book *Starfish and the Spider,* would have a flat hierarchy; it would be void of a formal structure, and have decentralized decision-making (Brafman & Beckstom, 2006). As aforementioned, the authors Brafman and Beckstrom use the analogy of a starfish and a spider to illuminate how decentralized organizations often thrive without formal leadership or a "head" in comparison to a centralized organization that cannot function without its formal leader (2006).

The success of a decentralized organization is predicated on the theory that there are five legs to support it, and losing one of its appendages will not undermine its existence (Brafman & Beckstom, 2006 p. 87). Furthermore, when all five of the legs are operational, a decentralized organization will promote autonomous creativity, which is a force multiplier for innovation. The five keys that make up a starfish organization are circles, a catalyst, champions, ideology, and pre-existing networks.

The independent and autonomous nature of circles, which are without hierarchy and structure, remains an important aspect of decentralized organizations (Brafman & Beckstom, 2006, p. 90). Once someone has gained membership everyone is an equal, and this aspect motivates members to contribute to the best of their abilities. This unique

relationship in turn leads to trust and self-enforcement that then become the norms of the circle (Brafman & Beckstom, p. 90). When members are physically connected, their bond provides a sense of accountability not found with virtual relationships. The caveat to this theoretical model when compared to the fire service is that, as with any holistic construct, the fire service has historically shared a strong fraternal bond with other firefighters regardless of proximity. This bodes well for the advancement of incorporating intelligence functions sporadically at the local level or in an ad hoc manner.

Critical to a decentralized organization is the role of a catalyst. Characteristics of catalysts are that they typically initiate a circle and then fade out of a lead position and allow the members of the circle to control its outcome. An important aspect of this movement is that by foregoing the leadership role, ownership and responsibility shifts to the rest of the group (Brafman & Beckstom, 2006, p. 93). Catalysts for the fire service could be members who currently participate in local, state or regional fusion centers and share their stories that illustrate how others can gain momentum in this arena.

The driving force behind circles is the ideology of the open system (Brafman & Beckstom, 2006, p. 94). Freedom and trust are important, but the authors contend that without ideology, a decentralized organization would fail. The influence of ideology to a circle is that members are motivated by the desire to create a better product, and the resulting openness or mutual respect of the group is key to the sustainment and recruitment of new members (Brafman & Beckstom, p. 96). The ideology of intelligence in the fire service is quite possibly the most obvious barrier to this emergent issue. The fire service is essentially at a standstill until its leaders fully embrace and prioritize integration toward the first preventer motif.

The fourth leg in the starfish metaphor is the pre-existing network found in most successful decentralized organizations (Brafman & Beckstom, 2006, p. 97). Though entry into preexisting networks can be challenging, an established circle of members is in a better position to promote a decentralized movement. Moreover, the existing infrastructure of empowered members who have established personal connections is more open to innovation and will more readily take ownership of new ideas (Brafman & Beckstom, p. 97).

Every decentralized organization needs a champion. A champion is one who is tenacious about the ideology and usually invests unlimited energy in advocating an idea or ideas. With this drive comes a relentless pursuit to "sell" the ideology when opportunity presents itself. Unlike a catalyst that is charismatic and subtle in approach, champions visibly involve themselves in elevating their cause or organization to a new level (Brafman & Beckstom, 2006, pp. 99–100). Champions for fire service intelligence are not readily found in the law enforcement community, so they must come from organizations like the International Association of Fire Chiefs and the International Association of Firefighters.

1. Strategic Planning Hybrid

Acknowledging that today's homeland security landscape is fluid and dynamic, leaders should anticipate potentially dramatic circumstances that will require adapting corresponding strategies in response to cumulative changes in the environment (Bryson, 2004, p. 299). To accomplish change, leaders need to be in touch with their organizations so they can recognize if major strategic changes are necessary or focused energies should be better spent to improve existing plans (Bryson, 2004).

As described earlier, the modern fire service has seen its responsibilities expand beyond the core functions of life safety and protecting property to those that encompass preparedness and planning to respond, mitigate and recover from acts of terrorism. Hence the need to adopt intelligence and information sharing functions to meet operational readiness. Because fire departments act independently and each has unique characteristics, a hybrid strategy to overcome the barriers of implementing intelligence sharing would be the most productive option.

How would a hybrid approach look? It would be a network of fire departments interconnected virtually across the nation via clusters. Locally, there would be local and regional partners who develop effective strategies to incorporate intelligence functions within their communities. This partnership would establish the first leg, the regional circles. Another leg would catalyze the relationship with local citizens via town meetings followed by a campaign of awareness to non-traditional communities. The dialogue

would bode well for both the fire department and the municipality, but also to gain invaluable knowledge from the "edge of the network" through inclusion of the public in the process (Brafman & Beckstom, 2006, p. 171). If firefighters do not make a unified effort to introduce the importance of this metamorphose, than public resistance may be overwhelming and essentially undermine their efforts.

The inclusion of the fire service into the information/intelligence gathering and sharing framework will require shifting the current paradigm and culture of the department from its traditional role of "First Responder" toward the progressive role of "First Preventer" (DHS, 2008, p. 2) or even better, finding the balance of both of these roles.

The support and commitment of key decision makers is critical to the development and implementation of strategic planning and change in an organization. The best time to identify these key individuals is in the planning stages, as they will be vital throughout the process. The goal of strategic planning in the public sector is to support public value and advance the common good (Bryson, 2004, p. 335). See Figure 3.

Power vs. Interest Grid

High

Interest

- State and Major Urban Area Fusion Center Partners
- Joint Terrorism Task Force
- ACLU

- International Assn. of Firefighters
- International Assn. of Fire Chiefs
- Local Law Enforcement
- Citizens

- Regional Mutual Aid Partners
  – Fire Service/EMS
  – Emergency Management
- Local Partners
  – EMS
  – Public Health

- City Government
- National Homeland Security Community
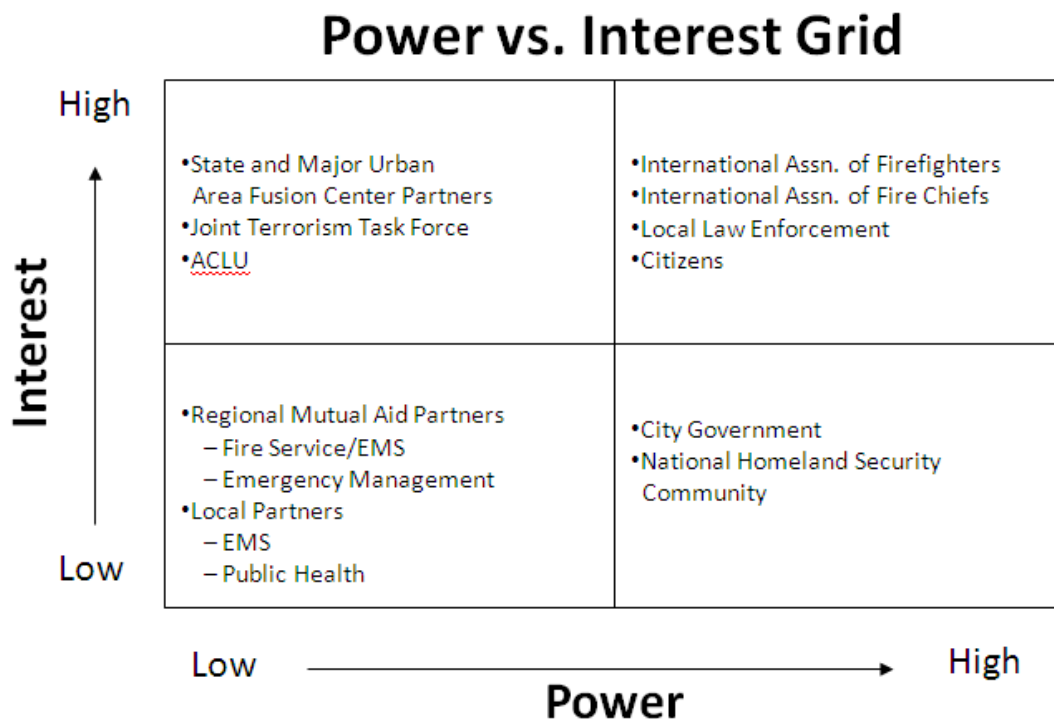
Low

Low ⟶ High

Power

Figure 3.   Power vs. Interest Grid (After Eden & Ackerman, 1998, p. 122)

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Using the power vs. interest grid as tool, Executive Fire Officers can visually situate stakeholders on the grid based on two criteria: their level of interest in the organization, and their power to affect the organization's current status or, in some cases, future development. While stakeholders may have a high interest in fire service intelligence within their community, they may have low or little power to effect change. In the case of adopting intelligence functions in the fire service, several stakeholders who participated in the Delphi surveys noted that there are power/interest positions that must be taken into account, as shown in Figure 3. Neglecting their participation will undermine the efficacy of undertaking such a transformational process.

Delphi survey results suggest that establishing coalitions early will lead to buy-in, a more robust product, and the kind of shared understanding of the benefits of the project that creates political capital which will make the difference between success and failure. As one Delphi respondent noted to achieve multi-disciplinary collaboration, "they [EFOs] can engage in projects that cross government to gain a familiarity (build relationships) with those who would be receiving the information the fire officer are discovering." While another stated, "The public expects relationships, not lack of awareness or how we are going to collaborate." This transformation cannot happen if the leadership of the fire service does not embrace participating in the intelligence sharing enterprise.

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V. INSTITUTIONALIZE FIRE SERVICE INTELLIGENCE

Inclusion of the fire service into the information and intelligence-sharing framework will be a complex and multifaceted transformation. With the anticipated expansion of the fire service's core mission to include these principles, it is imperative that EFOs be prepared to lead their respective departments into this unchartered territory. According to the *National Strategy for Information Sharing* incorporating counterterrorism strategies into fire departments' policies, procedures and operating guidelines will enhance the nation's security capabilities as "first preventers" and "first responders" (White House, 2007, p. 10).

"One clear lesson of September 11 was the need to improve the sharing of information" (White House, 2007, p. 7). Despite this notorious sentiment, some intelligence experts and law enforcement personnel still believe that intelligence operations are traditionally associated with law enforcement without need for non-traditional partners. Given the researcher and Delphi respondents uncovered few documents supporting the expanding mission or core functions of the modern fire service, these beliefs may well extend beyond intelligence and law enforcement practitioners to the point of resonating equally well with EFOs.

At the center of this issue is the proposition that the clash of cultures is fueled by a lack of understanding about each other's mission and intelligence needs. While both fire and law enforcement responders are public servants, their missions dictate how they protect society. A comparison between their respective preventive strategies highlights this distinction. The fire service employs preventive activities geared toward life safety via fire codes, fire prevention programs and pre-incident planning. Law enforcement, however, relies on exercising police powers to prevent or deter criminal activity and civil unrest. Firefighters enjoy warrantless inspection privileges[21] to carry out fire prevention programs and, following fires, to investigate cause. Law enforcement officers investigate

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[21] In Sea v. the city of Seattle, firefighters conducting building inspections are acting as law enforcement officers and therefore must meet the same standard of warrants. If a building owner denies Seattle Fire Department building entry, probable cause must be shown to a judge to secure an inspection warrant.

criminal activity for the purposes of prosecution with the intent of removing criminals from society and ultimately deterring future crimes. To this end, police do not typically carry out warrantless searches because their impact on life safety is seldom so clear and immediate, whereas their potential impact on personal liberty is likely to be more severe.

In an effort to research the integration of the homeland security mission into community policing, the Massachusetts Laws Enforcement Technology and Training Support Center merged police and firefighters with the desire to explore community information collection and sharing at the local level (Mitchell, Doherty, & Hibbard, 2006). The focus groups derived from the five homeland security regions were multi-disciplinary and divided by chief executive and line-level responsibilities. Most noteworthy were the emerging priorities: "training, approachability, promotion and outreach, communication and follow-up" (Mitchell et al., 2006).

With *training*, the consensus was that multi-disciplinary efforts would reduce information gaps because "first responders need to know how to cultivate information: what information to look for, how to collect it and where to send it (Mitchell et al., 2006)." Similarly, the Delphi respondents overwhelming noted that a lack of understanding disciplinary missions is a recurring theme within the non-traditional framework of police and fire. As one Delphi member suggested, "[EFOs] need to encourage local and state fire service organizations to work with law/intel to show the benefit fire/EMS/hazmat brings to the intel impact that table."

A.   THE FIRE SERVICE AS A CRITICAL PARTNER

Most experts agree that *approachability* for members of the first responder community traces from historical relationships or past practices deemed as positive or negative, depending on the outcome. Thus, the homeowner whose child was rescued before a kitchen fire killed all inhabitants thinks more highly of his local fire department than a woman who was mugged in a parking lot thinks of the police department which no longer has the resources to patrol such areas. Beyond the community circumstances, the focus groups concluded that all first responder disciplines must be responsive to their communities beyond their respective scope of authority and find ways to manage

information if the expectation is "to integrate homeland security in every facet of community life" (Mitchell et al., 2006). One suggestion articulated by a Delphi respondent noted, "The greatest impact that EFOs can have in improving their departments' intelligence situational awareness is by establishing a relationship with their law enforcement partners." This collaboration could equate to the integration of homeland security initiatives within a particular community when fire and law enforcement are true rather than theoretical partners.

Notwithstanding, the fire service inherited a favorable relationship with the public community from its non-partisan reputation of helping all people in need, regardless of socio-economic, political, religious, or racial make-up. In the law enforcement arena, there lingers a popular perception that such factors influence the quality of response, regardless of whether such perceptions are valid or just assumed, with one critic suggesting, "In some cases, police officers reportedly have refused to take a complaint of a potential hate crime. Officers reportedly have trivialized incidents or stonewalled attempts to file complaints" (Amnesty International USA, n.d.). Other analysts say, "First responders need to know how to cultivate information" (Mitchell et al., 2006) because it is during public interactions where firefighters have access and exposure to circumstances not experienced by law enforcement personnel. These opportunities if unrecognized can compromise the safety of first responders and ultimately the communities they serve.

Despite the misconceptions of the ethical responsibility of fire service personnel to report suspicious activity, some in the media suggest that firefighters who participate in "information/intelligence sharing" programs similar to the pilot originated in the FDNY,[22] would essentially be turning firefighters "into legally protected domestic spies" (Edwards & Muriel, 2007). Adding to this distortion is the premise that fire service intelligence as seen by some EFOs, contradicts its core discipline and compromises the

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[22] FDNY is credited as the first urban fire department to formally train in terrorism awareness or the ability to recognize suspicious activities and implement internal and external conduits for dissemination.

fire service's ability to remain transparent rather than making departments safer and better prepared. In this context, the terms "fire service" and "intelligence" appear fundamentally incompatible.

Likewise, "counterterrorism" is even further removed from fire fighter vernacular. EFOs concede that most fire fighters are not "hard-wired" to function in this capacity. Whether it is fear of the unknown or resistance to change, experts noted that word selection plays a role in user acceptance. Specifically, if the word "counter" were exchanged with the word "prevention," then fire service personnel would be more likely to adopt concepts of counterterrorism operations once recast as terrorism prevention (Martinez, 2006). As noted by a chief of a major metropolitan fire department, "Regardless of what it is called, without the support of the law enforcement community, there will be no intelligence capabilities in the fire service" (confidential, personal communication September 24, 2009).

However as promulgated by the *National Intelligence Strategy of the United States of America*, "the new concept of *national intelligence* was codified by the Intelligence Reform and Terrorism Prevention Act" (U.S. Office of the Director of National Intelligence, 2005, p. 1) and the expectation is this is a shared responsibility. Consequently, Section 1016 of the *Intelligence Reform and Terrorism Prevention Act of 2004* prescribed guidelines and requirements to support the creation and implementation of the *Information Sharing Environment* (ISE). The premise was that the ISE would enhance the information exchanges based on full partnerships between "Federal departments and agencies, State, local and tribal governments, and private sector entities" (White House, 2007, p. 12). Within the body of this strategy the concept of including nontraditional partners outside of the law enforcement community emerges as a key mandate.

Additionally, an important aspect of the ISE is the recognition that the informational needs of State, local, and tribal entities expand as counterterrorism and homeland security activities are integrated into daily public safety missions. To that end, the fire service has historically been a consumer of intelligence. However, access to "timely, credible, and actionable information and intelligence," (ISE Program Manager,

2006) has generally been slow or non-existent, despite the intelligence being crucial to public safety and to maintaining a fire department's state of readiness. The Information Sharing Environment sets forth the following vision as the desired end-state:

> A trusted partnership among all levels of government in the United States, the private sector, and our foreign partners, in order to detect, prevent, disrupt, preempt, and mitigate the effects of terrorism against the territory, people, and interests of the United States by the effective and efficient sharing of terrorism and homeland security information. (ISE Program Manager, 2006)

Furthermore, most EFOs accept as falling within their core disciplines the current DHS claim that the fire service is a critical partner in the efforts to secure the homeland. After all, securing the homeland is consistent with the traditional fire service role of saving lives and property. However, there is no such consensus when it comes to labeling the fire service as a homeland security partner in terrorism prevention. Whether it is a question of intelligence gathering by firefighters or sharing of such intelligence with law enforcement and other new partners, there remain more divergent opinions than agreement among front-line firefighters, EFOs, and their law enforcement counterparts.

As noted by the Delphi research group:

> The fire service wants to maintain operational readiness by keeping abreast of intel and passing this information to its firefighters. The IC wants to keep this information confidential so as not to compromise the integrity of the data. Sometimes, conflicts arise because of this lack of information sharing which results in a breakdown of trust between agencies.

A different perspective was "some firefighters can be the poison pill for these programs, as they do not believe it is part of the fire service mission." Notwithstanding, there is room for debate on the parameters of such a transformation as well as the issue that integration of intelligence duties is by no means a one-size-fits-all strategy. However, legislative, regulatory and legal context exist to move forward with the transition for "First Responders" toward becoming "First Preventers."[23]

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[23] This assessment is based on Figure 1: Legislative, Regulatory, and Legal Context for FSIE listing the instruments (DHS, 2008, p. 5).

Although the IC will continue in its' role as the primary source for information related to terrorist plans, intentions and tactics, it is imperative that there is a framework to share critical information related to individuals and groups who intend to conduct terrorist activities within the United States (White House, 2007, p. 10). In the interval, information and intelligence conduits should be developed, and established within local fire departments and expanding out, between law enforcement agencies. Following this evolution, as a critical byproduct, non-traditional partners and stakeholders will be folded into the framework.

Defining intelligence for the fire service would further enhance the structure and organizing principles that will support a network of firefighters who promote sharing intelligence when they all speak the same language. While this effort appears to be global, major urban fire departments need to establish a working machinery so that they can incorporate outlining departments.

The preferred terminology within the fire service is information sharing rather than intelligence sharing, as police intelligence carries law enforcement overtones that enforce divergent impressions across the public safety arena. Likewise, counterterrorism efforts have historically been law enforcement-centric and certainly far removed from most firefighters' purview.

While each fire department has a unique relationship with its law enforcement partners, these examples underscore the evolutionary process of holistically adapting to the current threats shared across disciplines, jurisdictions and all levels of government. As noted by the Delphi research group, policy makers and elected officials should support these collaborative initiatives by expanding participation at the department level and through DHS led fusion centers.

One option is the use of suspicious activity reporting, provided law enforcement and fire officials develop a legally acceptable means for firefighters to assist their law enforcement partners with information. On the surface, supplying information that firefighters accumulate in the course of normal activities appears a straightforward undertaking. In practice, however, as Delphi respondents pointed out, such sharing tends

to be unidirectional, with little police feedback returning on how the firefighter information was used or whether it was even received. As noted from a chief with extensive national deployment experience, "nor do many fire departments receive even sketchy details regarding outcomes." As a result, EFOs have no way to gauge the effectiveness of their intelligence sharing efforts or whether their investments in such efforts are yielding dividends to their communities. Again, this validates the need for a working framework and mechanism to gather and share information, as well as the dissemination of intelligence to firefighters that is timely, tailored, digestible and clear (Lowenthal, 2006, p. 139).

To expand on this theory, the *National Strategy for Information Sharing* describes its vision for the nation and identifies guiding principles to assist first responders:

> Those responsible for combating terrorism must have access to timely and accurate information regarding those who want to attack us, their plans and activities, and the targets that they intend to attack. (White House, 2007, p. 2)

There have been modest attempts to integerate intelligence functions into the fire service. Most efforts support sharing across agencies rather than between fire department. In effect, if there is a mechanism for sharing intelligence, it is more likely that a firefighter will be providing the details to a police counterpart than to another fire department in the next city or county.

B.   FIRE SERVICE INTELLIGENCE ENTERPRISE

In September 2007, 15 fire department leaders met with officials from the Department of Homeland Security at the inaugural information-sharing conference where Assistant Secretary for Intelligence and Analysis Charles Allen said, "You are truly at the front line—at the vanguard of all relief efforts" (FDNY News, 2007, p. 7). Having the Assistant Secretary address the fire service drew attention to the ongoing need for information or intelligence sharing as an area ripe for EFO attention.

This conference launched efforts geared toward identifying fire service requirements of intelligence products. Ultimately, the conference set into motion events that would culminate with the creation of the Fire Service Intelligence Enterprise.

Initially, the FSIE was developed by the fire service for the fire service (DHS, 2008, p. 4). To their credit, the members of the FSIE took a bottom-up approach to develop a common vision, including a governance structure, information requirements, and training needs.

To formulate the National Strategy for Fire Service Intelligence Enterprise, a workgroup was established as a collaborative process that included 15 major urban fire departments. Although the workgroup addressed the integration of federal, state, and local intelligence partners, most fire participants believed that the outcome would also support internal sharing within the fire service (anonymous personal communication March 6, 2009). Regardless, the first priority was to formulate a strategy to fill this deficit followed by integration of non-traditional initiatives that support collaboration and situational awareness.

These networks would start as local forums and expand regionally, then nationally. The working group began by focusing on first establishing intelligence for internal, fire service use. Though the fire service has yet to make its mark in intelligence within the broader context of homeland security partnerships, the FSIE framework offers a starting point for such efforts. This foundation supplies "the ability to prioritize and disseminate threat-relevant information across agencies and disciplines" (Royal, Donahue, & Aiden, 2008, p. 54) that needs to transition to the forefront of the emergency response community. Given that the fire service intelligence work group consists of leaders well versed in the conceptual aspects of intelligence operations, relying on this group to champion adoption of FSIE would be a logical step in the evolution to integrating the intelligence role into the core disciplines of the fire service.

Lastly, as noted in the *National Strategy for the Fire Service Intelligence Enterprise* (FSIE) there is national precedent to embody these concepts. "By leveraging existing and emerging homeland security capabilities and structure, including fusion centers, Fire Service personnel will more effectively prevent, prepare, respond and recover in the All Hazards environment in order to enhance public safety" (DHS, 2008, p.

2). As leaders recognize the importance of their expanded fire service responsibilities, it will be imperative that elected officials be kept in the loop and educated on the parameters of these initiatives as they mature.

C.   INTERAGENCY THREAT ASSESSMENT AND COORDINATION GROUP

By putting information within the grasp of the fire service, new resources show promising potential for accelerating the paradigm shift to embrace intelligence as a core duty. The Interagency Threat Assessment and Coordination Group (ITACG) [24] recently produced *Intelligence Guide for First Responders,* a tool that outlines Federal counterintelligence, homeland security, and weapons of mass destruction intelligence reporting (Interagency Threat Assessment and Coordination Group [ITACG], 2009, p. 2). The handbook provides a general overview of what intelligence is and how to deal with intelligence issues. It concludes with a reference section that deciphers Intelligence Community terminology, acronyms and abbreviations.

The handbook is full of information that would serve as an immediate resource for EFOs who have minimal exposure to intelligence nomenclature or lack a basic understanding of its core functions. For example, the extensive resource list of Intelligence Products Typically Available to First Responders and Understanding Threat Information supply reference and tutorial details that would otherwise be inaccessible to the average firefighter (ITACG, 2009, pp. 29, 42).

There are several examples across the nation of fire departments producing unclassified and open source intelligence briefings or contributing to local and regional intelligence briefings. Most are "For Official Use Only" (FOUO), "Law Enforcement Sensitive" (LES) and a select few use the term "Fire/Rescue Sensitive" (FRS). They vary in size, design and content, as they are tailored to the jurisdiction served while providing the larger fire service with actionable intelligence on local and national threats.

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[24] The ITACG consists of state, local, and tribal first responders and federal intelligence analysts from the Department of Homeland Security and the Federal Bureau of Investigation, working at the National Counterterrorism Center to enhance the sharing of federal counterterrorism, homeland security, and weapons of mass destruction information with state, local, and tribal consumers of intelligence.

According to an open source author/contributor, readership continues to expand as these documents reach multi-disciplinary audiences beyond the fire service (anonymous, personal communication July 7, 2009).

Another positive effort to indoctrinate the fire service into the intelligence culture is the recent assignment of a fire representative into the Department of Homeland Security's National Operations Center (Pitts, 2008). In fact, April 2006 information sharing discussions between the Office of Intelligence and Analysis and the U.S. Fire Administration predated the FSIE rollout, by well over a year, as noted in *Fire Chief Magazine* (Pitts, 2008)

As research and foundational literature has established, intelligence as a new discipline remains foreign to the fire service. By the same token, casting certain aspects of intelligence in familiar fire service terms, such as situational awareness, pre-fire or size-up, renders aspects of intelligence accessible to any firefighter. Avoiding the needless complexity of magnifying artificial distinctions between information and intelligence is another way of making the new role more accessible. One prominent intelligence expert asserts "all intelligence is information; not all information is intelligence" (Lowenthal, 2006, p. 2). Thus, for the fire service, it would appear useful to begin with the more familiar terms, such as information, and then build on the familiar to gradually introduce the more arcane versions of these terms, such as those noted in the *National Strategy for the Fire Service Enterprise*.

D.   MULTI-DISCIPLINARY APPROACH—FUSION CENTERS

The 9/11 Commission concluded that during the plotting stages, there was a disconnect between domestic and foreign intelligence leading up to the terrorist attack on September 11 (9/11 Commission, 2004, p. 263). Although there have been no comparably spectacular attacks on U.S. soil since 9/11, experts suggest that terrorism remains a legitimate threat (ITACG, 2009).

While the current threat environment has broad implications for most urban fire departments, clearly this analysis should provoke urban metropolitan fire departments to evaluate internal and external policies and strategic initiatives that would support

collaboration. Moreover, developing multi-disciplinary and multi-agency relationships can solidify a formal machinery for actionable intelligence. This type of planning requires participation by all response agencies, resulting in a force-multiplier effect that contributes to a jurisdiction's overall effectiveness in terrorism prevention and emergency response (Pollard, Powell, Royal, Tuohy, & Boyd-Shaw, 2005). In addition, given that multiple agencies will respond to terrorism, it is imperative to address any statutory authority that can influence operational considerations in advance of an actual incident (Federal Emergency Management Agency [FEMA], 2001, pp. 4-3). In other words, the time to determine who is in charge of what is before the casualties and the destruction.

Fusion centers are a logical step in furthering collaboration between law enforcement and fire, providing participation is mutual. Many of the current fusion centers originated from state-funded, criminal intelligence task forces and remain dominated by law enforcement. While the trend is to shift towards an all-crimes or all-hazards approach, a recent report prepared for Congress indicated less than 15 percent of surveyed fusion centers remain solely focused on counterterrorism (Rollins, 2008, p. 21). Slightly more than 40 percent of the surveyed fusion centers pursue a less than definitive "all-crimes" mission compared to the 40 percent that have adopted an all-hazards mission and the greatest variation in interpretation of what the all-hazards definition means (Rollins, 2008, p. 21). Despite the inconsistency, those with an all-hazards emphasis were more likely to include non-law enforcement personnel than their counterterrorism or all-crimes partners (Rollins, 2008, p. 36).

At a National Fusion Center Conference in Kansas City, Secretary Janet Napolitano conveyed her philosophy of fusion centers as a "collaborative space" where information can be shared "across disparate disciplines, law enforcement, fire, public health, emergency management and critical infrastructure protection" (DHS, 2009). The Secretary challenged the attendees—predominantly law enforcement—to question the diversity of their fusion centers when she asked, "Who is in your fusion center?" Most importantly, the Secretary articulated that fusion centers should be "a seamless network of information sharing...not just vertically but horizontally across the country at different levels" (DHS, 2009).

Because fusion centers conceptually epitomize the function of synthesizing information/intelligence in multi-disciplinary environments, the fire service should capitalize on available opportunities to understand the structure and operations of the state, local fusion center within its jurisdictions. By integrating with law enforcement, the fire service stays informed about decisions that could affect its service delivery. Without proper representation or involvement, it is questionable that these fusion centers can meet the intelligence needs of the fire service or protect their communities.

There are several other benefits from participating in the fusion and information sharing process. Fire departments can adapt response capability based on the identified need. Additionally, equipment procurement and the development of training programs and curricula can be tailored to emerging threats. At the same time, coordination and collaboration with other public safety agencies provides invaluable experience. In addition, the integration with law enforcement will support a variety of mandates called for in most local or regional grant funding from the Urban Area Security Initiative (UASI).[25]

EFOs facing tight budgets and competing demands for their resources need reassurance that any investment they make in supporting fusion centers will produce a meaningful return. For this reason, in some municipalities, fusion center directors may find that they need to demonstrate their value before calling for fire service support. Recommended demonstrations of value include delivering terrorism awareness training and addressing community concerns of privacy, respect for civil liberties, and the legal boundaries that prohibit firefighters from assuming police functions. Moreover, to support fusion center intelligence, firefighters need standard training on pre-attack indicators and protocols for suspicious activity reporting that also takes into account due regard for civil liberties.

The fire service has developed longstanding relationships with its communities, resulting in routine firefighter access to a broad array of information whose terrorism

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[25] The Urban Area Security Initiative is intended to help meet homeland security needs by providing resources to select urban areas for planning, equipment, training, exercises and program management and information.

prevention significance will be lost in the absence of training. Thus, if certain pre-attack indicators known to local police do not reach the firefighters who are more likely to spot such indicators in the course of their routine work, this failure to share information will result in a cascading failure to collect and share intelligence Once law enforcement partners recognize this challenge, their cultural resistance to involving firefighters in a shared understanding of indicators should give way to the greater intelligence benefit of maximizing the firefighter's "important ability to act as a natural surveillance and detection system" (Royal et al., 2008, p. 15).

The fire service's dilemma is to reconcile two opposing mandates: contributing to intelligence that will defend communities while, at the same time, preserving a relationship of trust whereby community members instinctively give access to private dwellings and businesses out of the belief that firefighters are there to protect life and property. As EFOs indicated in their deliberations, navigating through this dilemma is best done from the vantage of a heightened awareness that does not question the primary firefighter obligations but, instead, clearly makes intelligence gathering an ancillary duty. Otherwise, with the primary mission in question or in tatters, firefighters stand to lose their moorings and to risk performing well in one area only at the expense of another. An important element of this training is the credibility made possible through joint delivery by police and their fire service liaison officers. This joint effort can be the basis for continued multi-disciplinary awareness training and collaborative campaigns.   The readily identifiable dividend that such campaigns offer is enhancement of operational readiness in the face of terrorist tactics and anticipated attacks.

Another emerging issue for non-traditional partners' involvement in the fusion process is access to classified information. In many ways, the fire service joins local police in experiencing frustration from not being recognized and supported as a recipient of information classified for reasons of national security. Indeed, non-federal, non-traditional partners routinely report encountering systemic over-classification of intelligence, which perpetuates a lack of dissemination to those who need it most (9/11 Commission, 2004, pp. 417–418).

While clearances remain elusive, it is common perception in the fire service that within the law enforcement community, there are systemic barriers to inclusion. EFOs do not need to know specifics that could compromise an active investigation, such as identities, details of plots, and rendezvous sites of suspected terrorists. They do need to know tactical information, such as threats to the public or target locations, because the fire service cannot establish well-grounded strategic objectives and make tactical decisions without accurate, actionable and critical information.

Moreover, the department has a legitimate role in collecting and developing all-source situational awareness in cooperation with a multitude of response agencies. To do this requires the integration of firefighters into the intelligence/information-sharing framework. According to a report by the Markle Foundation Taskforce, "It is about establishing a collaborative environment with a clear purpose: ensuring that the right people have access to the right information at the right time under the right conditions to enable the most informed decisions (2009, p. 3).

Therefore, the value added by a department's commitment to the fusion process is at minimum threefold. First, participation will ensure that critical communication occurs while providing pre-incident coordination with law enforcement. Second, by sharing information with non-traditional partners in every direction, the department will enhance safety and security while remaining committed to its core functions and mission. Third, leadership can strategically leverage resources toward preparation and response capabilities.

As the threat of terrorism remains viable, the fire service must adapt to maintain the highest state of operational readiness. Rather than becoming a *lessons learned* example following a catastrophic failure, this is the fire service's opportunity to participate in the larger homeland security objective of preventing death and destruction. Experts suggest that information that will protect our country will come from the ground up, rather than from the top down. Hence, the criticality of integrating the fire service into state and local fusion centers.

1.   Balancing Civil Liberties With the Duty to Act

Because fusion centers are led by law enforcement agencies, most of their policy guidance betrays a policing slant. While the fire service lacks as much internal capacity to deal with intelligence as law enforcement, it nevertheless integrates with difficulty into fusion centers if a law enforcement-centric focus leaves scant room for factoring in other partners' equities. Recognizing this problem, *The Fusion Center Guidelines—Developing and Sharing Information and Intelligence in a New Era* highlighted one such requirement:

> In order to balance law enforcement's ability to share information with the rights of citizens, appropriate privacy and civil liberties polices must be in place. Privacy and civil liberties protection should be considered in the planning stages of a fusion center. (U.S. Department of Justice, 2006, p. 41)

Based on national statistics, firefighters gain entry to private residences to deal with medical emergencies more often than fire-related emergencies.[26]   Given the personal nature of a medical emergency, abuse of this access has the greatest potential for both confusion and controversy. Clearly there is the potential for patients or citizens to confuse the priorities of EMS responders, if they believe that their personal medical information may be arbitrarily or unnecessarily revealed to law enforcement. To counter this misunderstanding, it is EFOs responsibility to maintain public trust by assuring the community that firefighters are well trained and committed to respecting their rights and privacy.

One approach to attaining a better understanding of the challenge that firefighters deal with in their stewardship of the public trust is to look for insights into how a family physician would have to deal with the same kind of private information. In the case of emergency medicine, legal guidance exists as a result of the Health Insurance Portability and Accountability Act of 1996 (HIPAA). HIPAA mandated standards to protect individually identifiable health information in any form (Office of Civil Rights, 2003, p. 3). As part of HIPAA's *Standards for Privacy of Individually Identifiable Health*

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[26] According to the United States Fire Association, 50–80 percent of a fire departments emergency responses are emergency medical services calls (2008).

Information, also known as the HIPAA Privacy Rules, there exist strict provisions to deter unauthorized disclosure of the equivalent of private information as it applies to medical data (2003, p. 3).

Where does HIPAA offer applicable insights for the fire service in its aim to avoid inappropriate disclosure of private information given in trust? HIPAA deals at length with this issue in the section dealing with essential government functions. This section calls out circumstances authorizing disclosure and release of medical information specialized government functions (Office of Civil Rights, 2003, p. 8). Specifically, HIPAA permits the disclosure of protected health information to authorized federal officials for the conduct of lawful intelligence, counter-intelligence, and other national security activities authorized by the National Security Act (50 U.S.C. 401, *et seq.*) and similar implementing authority (Code of Federal Regulations, Title 45, Section 164.512(2), 2002). Consequently, if the medical community can find a means of navigating through restrictive laws protecting the most private of personal information, the fire service should also be able to do the same without jeopardizing its community standing any more than a doctor does by following HIPAA guidelines.

While most urban fire departments have formal policies to address the federal HIPAA regulations, where they may fall short is when developing policies for intelligence gathering if they neglect to incorporate state confidentiality laws. Experts suggest that laws affecting medical confidentiality and disclosure offer a model for fusion centers to use. In some cases, state laws are more restrictive and prohibit the reporting of such protected information, even if the data may reveal potential terrorist planning or operations (Petrie, 2007, p. 10).

Beyond the implications for protected medical information, opposition exists to any use of firefighters as intelligence collectors, particularly within the ranks of the American Civil Liberties Union who have publically campaigned against this role of the fire service. Retired Federal Bureau of Investigation (FBI) intelligence analyst and American Civil Liberties Union (ACLU) attorney, Mike German, claimed "Americans universally abhorred that idea" (Sullivan, 2007). During a nationally televised interview, he voiced these same concerns when discussing the merits of firefighters providing

information on suspicious materials and behaviors detected in the course of fire inspections and medical emergencies (Edward & Kane, 2007). He coauthored the ACLU's position paper, "What's Wrong with Fusion Centers?" which outlined a variety of concerns about transparency and inconsistencies with design and accountability between each fusion center (German & Stanley, 2007).

While none of German's dire predictions have come to pass, the attention these concerns have received may account for the fire service's reluctance to fully engage in the intelligence arena. If communities no longer trust their fire departments because they feel that firefighters are feeding private information to local police, they risk alienating their customers (i.e., the very communities which will demand redress from government policymakers) (Petrie, 2007, pp. 4-6). Worse still, the alienated public may stop calling 9-1-1 and refuse to cooperate with firefighters during life-threatening emergencies.

Within the Delphi group, many respondents voiced concerns about this relationship and its effects on strategies. One SME commented that "fear of public perception regarding fire department participation in intelligence activities," is a primary cause preventing EFOs from pursuing fire service intelligence initiatives. Another suggested, "The public needs to have confidence that when they call 911 that they will receive the best service delivery available." In any case, community trust is a privilege that has taken decades to establish while one misunderstood action could jeopardize this longstanding relationship. Rather than testing the fragility of public trust, it is incumbent on the fire service to be proactive through policy development and formal training before it finds itself in an untenable position.

2. Fusion Liaison Officer

As aforementioned, the FSIE strategy reminds us that "the fire department needs timely and reliable information about preventive measures that other agencies, disciplines, and levels of government have taken, or plan to take" (DHS, 2008, p. 20). It would be difficult to participate at one spectrum of actionable intelligence without incorporating aspects to contribute information to local partners. That said, the Terrorism

Liaison Officer (TLO) and the Fusion Liaison Officer (FLO) programs represent other viable options for collaborating and integrating into the state, local fusion centers.

An FLO is a designated representative from a law enforcement agency, fire service, or public safety organization who is responsible for coordinating terrorist and other criminal intelligence information between the parent organization and the local fusion center. A TLO is similarly assigned lead coordination responsibilities, but may not necessarily be based out of the fusion center. FLOs and TLOs provide information directly to the fusion center, and facilitate vital information sharing between fire departments and fusion centers (U.S. Department of Justice, 2009, p. 3). By developing a core group of firefighters as liaison officers, a department would nurture relationships and drive collaboration with stakeholders participating in the fusion center.

The need for formal training goes beyond the fire service. A recent functional exercise testing a broad spectrum of terrorism prevention capabilities revealed a shortage of police officers trained to manage counterterrorism and criminal intelligence cases (DHS, 2008). One of the lessons from this exercise was that law enforcement agencies should designate and train one representative in intelligence sharing. However, the report omits recommending whether this officer should be full-time or part-time (DHS, 2008).

With the necessity to share information/intelligence, homeland security leaders in law enforcement have come to rely on creating liaison officers as focal points to work with homeland security partners. As the foregoing exercise and related report emphasize, a substantial benefit for the fire service may well come from developing its own liaison officers and maximizing their value by enrolling them in a formal training program tailored to the service's needs.

Although this program is in the conceptual stage in most major urban areas, there are several examples of firefighters trained and performing in both the TLO and FLO capacity across the country in formal and ad-hoc capacities via fusion centers. Some departments staff this position full-time on a rotational basis, while others rely on a cadre of firefighters who participate in quarterly meetings and then provide briefings to their department executives.

Some participate in their local Joint Terrorism Task Forces operated by the FBI. However, the researcher was unable to acquire empirical information due to the lack of a formal database to query for such data.[27] The Colorado Information Analysis Center has a network of Terrorism Liaison Officers that includes firefighters (DHS, 2008). These examples demonstrate that TLO/FLO programs offer benefits to the fire service and their successful integration could serve as the basis for incorporating this position in major urban fire departments.

At the tactical level, EFOs recognize significant incidents require ongoing assessments to support situational awareness. However, foreknowledge is even more valuable and can make the difference between a well-planned and executed response or a chaotic and complex response that exposes both responders and citizens to unnecessary risk. Accomplishing the transformation toward integrating fire service intelligence begins by developing internal capabilities to identify suspicious activity that contribute to situational awareness and, by extension, to preventing terrorist attacks. With established terrorism or fusion liaisons, a department is then poised to understand the real-time threat picture related to its municipality. Moreover, "thoughtful analysis about risks to our communities supports elected officials and homeland security leaders...to better utilize limited financial resources to make effective, risk-based decisions about public safety matters and mitigate threats to the homeland" (Riegle, 2009).

E.   CRISIS INFORMATION MANAGEMENT SYSTEMS

Lessons learned from September 11 demonstrate the value of implementing incident command and streamlining interagency collaboration through timely sharing of intelligence, as opposed to adhering to traditional routines that leave responders to work in isolation. Institutionalizing this change requires developing relationships, incorporating best practices, and leveraging innovative technology to facilitate intelligence sharing.

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[27] Through personnel contacts, the researcher was able to confirm that there are fire service members who are in contact with both fusion centers and the JTTF in ad hoc or informal capacities.

To remedy systemic failures of 9/11, the creation of the DHS was to serve as a catalyst for infusing the emergency response architecture with vital situational awareness. Subsequently, several Homeland Security Presidential Directives (HSPDs) supplied guidance to lead the public safety sector in the direction of a unity of effort that prevents, preempts, or interdicts terrorist attacks. To meet the intent of HSPD 5[28] and HSPD 8[29], public safety leaders were called to redefine existing roles and responsibilities to define groundbreaking advances in interagency cooperation.

Through the lens of a first preventer, these HSPDs provide the means of introducing technology to expedite intelligence sharing. Given that, the fire service had adopted elements of the National Incident Management System (NIMS) decades ago, most EFOs are well versed in the application of incident management. Where they have limited exposure is in making the most of technology to share intelligence rapidly and connect with other responders. Effective incident management dictates that it is critical to generate a common picture of the operational environment (i.e., a shared situational awareness).

Fortunately, the fire service need not invent technological solutions when others are already developing and testing them. For example, the Crisis Information Management System (CIMS) shows promise as a means of gathering up inputs from geographically separated units, consolidating them for analytical review, and then broadcasting analysis based on all the inputs to end-users via whatever means is at the recipient's disposal (Security Office for Interoperability and Compatibility, 2004, p. 2). In theory, CIMS should be able to push out the same, real-time intelligence to one responder on a cellular telephone, to another on a mobile data terminal, and to yet another on an agency radio.

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[28]Presidential Directive 5 (HSPD-5), the management of Domestic Incidents, directed the Secretary of Homeland Security to develop and administer a National Incident Management System (NIMS) (White House, 2003). The purpose of NIMS is to augment emergency responders' capabilities to prepare for, prevent, respond to, and recover from terrorism and man-made or natural disasters using a "single, comprehensive approach to domestic incident management" (White House, 2003).

[29] HSPD-8 addresses National Preparedness and established policies to strengthen the level of preparedness to "prevent and respond" to threatened or actual domestic terrorist attacks, major disasters and established mechanisms for efficient delivery of Federal assistance" (White House, 2003, p. 1).

Initially, the most common application for CIMS was limited to emergency operation centers (EOCs) where it supported the management of crisis information. Additionally, EOC managers and staff use CIMS to capture and display situation status and resource status updates and as a tool to document incident events (U.S. Department of Justice, 2002, p. 1). A number of expert commissions and the first responder community made recommendations suggesting that spreading the use of technology would significantly improve incident management and enhance terrorism response (Institute for Security Technology Studies, 2004, p. 5).

In order for innovations like CIMS to gain traction in the fire service, they must deliver immediate benefits in both emergency and routine situations. A firefighter taking the time to learn the new system must be able to recognize its value as an incident management tool that aligns with Incident Command System (ICS) functions. However, if the only opportunity to use CIMS is under emergency conditions, the tool will rust in its scabbard. Thus it must also offer utility as a planning tool in day-to-day operations, or it will not be used enough to be valued. A way of improving the tool's perceived value is to enlist it as an information-sharing conduit for linking with the local law enforcement and other local stakeholders or partners. Today, commercial software developers regularly customize applications to meet the demands of first responders. With these technological advances, the fire service has the opportunity to evaluate or even demand several products to improve situational awareness while enhancing command and control capabilities.

Selection of any technology should be a collaborative effort that includes the end user, the technical support staff, and the developer, Most importantly, though, the fire service end user should enter into this arena with a well thought-out conceptual idea of what problem the technology is to solve. To assist in the selection of a CIMS product, the CISM Test Bed Project developed *Guidelines*[30] and created the *Feature Comparison Matrix Tool (FCMT)*[31]. Both the guidelines and a matrix tool were based on surveys

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[30] See Appendix A – Critical Information Management Systems Guidelines.

[31] The Feature Comparison Matrix Tool is available at http://www.ojp.usdoj.gov/nij/temp/publications/197065-Matrix.zip.

from emergency management agencies to compare and contrast commercially available software in an unbiased trial. In addition, the FCMT was designed to augment the procurement process by evaluating common functions and assigning a weighted score based on internal agency requirements (U.S. Department of Justice, 2002, p. 8).

Interoperability presents a challenge because different application developers have proprietary interests that inhibit sharing of trade secrets that keep them in business. Again, the fire service need not tackle this challenge on its own. Instead, EFOs may look to the Emergency Interoperability Consortium (EIC), which was launched in October 2002. As posted on the EICs homepage, their objectives are to create a nationwide standard for data sharing through a public/private effort, to encourage web-based services to support the exchange of information during emergency incidents and make appropriate information available to the public for use in the development process (EIC Organization, 2008). Key to this effort is that the EIC requires open sharing of information between different applications (Security Office for Interoperability and Compatibility, 2004).

Other government agencies and initiatives also offer promise in addressing these challenges. For example, DHS itself developed the Disaster Management (DM) Standards Initiative. This initiative aims to enhance cross-jurisdictional collaborations despite the likely possibility that responder agencies are using different software, systems, and devices (Security Office for Interoperability and Compatibility, 2004, p. 2). Conceptually, the "DM and EIC work together to demonstrate standards and expedite adoption in vendor products—making them available to end users as quickly as possible" (Security Office for Interoperability and Compatibility, 2004, p. 2).

The CIMS selection process identifies plausible answers to the question, "How can situational awareness, intelligence sharing, and implementation of the Incident Command System be enhanced with the inclusion of technology?" An application that then follows the CIMS evaluation process should be selected if it fulfills the department's communication, situational awareness, and data management needs. Such a tool will generate automated incident plans and ICS forms. It can also link documents and resources together in a way that saves time and manual labor. These features allow a fire

department to use the application daily for a multitude of business processes in the fire prevention bureau,[32] where oversight of the fire and life safety inspections program resides.

Experts warn that the traditionally compartmentalized approach to collection and analysis is unequal to the task of dealing with dynamic terrorists threats because timely warning is fundamentally incompatible with bureaucratic delay (Markle Foundation, 2002, p. 69). EFOs cannot afford to discount national intelligence estimates that rate terrorist groups a serious threat to the homeland (National Intelligence Council, 2007, p. 6). This analysis validates the need for a working framework and mechanism to gather and share information to and from firefighters that is "timely, tailored, digestible and clear" (Lowenthal, 2006, p. 139).

The benefits of a CIMS tool are multifaceted when integrated into daily use for a fire inspection program and pre-fire applications that serve to share intelligence with all homeland security partners. As history has revealed, lack of imagination and maintaining status quo can have catastrophic results.

F.   THE BRITISH MODEL

Several international countries with counterterrorism strategies incorporate multi-agency coordination, but none had codified formal relationships that included its fire service or brigade as well as the British model known as CONTEST. While noted earlier in this thesis, effective information sharing is a critical element toward the integration of intelligence functions in the American fire service; one means to achieve this type of collaboration is from strong partnerships founded by a culture that fosters situational awareness by all members of government.

What can be gleaned from the British model is how fire brigades are integrated into the UKs terrorism preparedness and prevention strategy and what mechanisms exist to develop a cohesive relationship among multi-disciplinary and multi-agency partners in

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[32] Fire Prevention Division of the Seattle Fire Department, commonly referred to as the Fire Marshal's Office, provides the guidance and inspection services to help prevent fires and assure fire and life safety for people who live, work and visit in Seattle.

response to the terrorism activity since 9/11. Moreover, what is nonexistent in the US fire service is the formal structure or platform for information sharing necessary for collaboration and coordination prior to an incident. Subsequently, there are unrealistic expectations that by adopting the Incident Command System, all of these issues will fall into place and take care of themselves.

In the U.S, mutual aid among neighboring jurisdictions is codified in formal agreements and gives every department a source of emergency staffing when the demands of a major incident exceed that department's in-house capacity. Personal relationships or history cement bonds rooted in collaborations that extend from department leaders and shared experiences that form part of the unique character and culture of a given fire house. These relationships may trace to shared victories and losses during a major response where the firefighters responded as the result of a mutual aid request. They may also trace to EFOs who started out as firefighters in the same department but eventually went on to lead different agencies yet in a similar style with frequent interactions that dispose their staffs to work well together.

While grant funding may theoretically create similar opportunities for introducing different departments and EFOs, there are diverging opinions about the competitive nature of the DHS grant system. Informed analysts suggest the DHS grant process undermines unity of effort across jurisdictional lines, turning potential collaborators into competitors for resources (Stockton & Roberts, 2008, p. 7).

Given that the United States Fire Service consists of a network of fire departments that operate independently within their jurisdictions, there are three main incentives for one fire department to collaborate with another: mutual aid, personal relationships or history, and grant funding.

By contrast, fire service symposium and planning forums that abound in Britain are absent from the US response community. The British combine formal doctrine with government sponsorship of conferences and joint planning sessions that convey an official and working-level imprimatur on the intelligence-sharing role. In Britain, fire

service intelligence seems important because the emphasis begins at the top but finds widespread reinforcement at the working level that radiates back upward out of local response communities.

For meaningful change to produce tangible dividends in U.S. fire service intelligence, EFOs must take on systemic issues that will otherwise undermine the desired paradigm shift. The first bomb to sweep out of this potential minefield is the lack of a basic understanding of each partner agency's mission, priorities, assets, and needs (Royal et al., 2008, p. 20). By operating in a relative vacuum in such areas, intelligence partners miss opportunities to assist each other and, by extension, do so at the expense of their own communities. Stovepipe cultures also reduce the value of endeavors that require partner and stakeholders participation prior to a terrorist incident: joint training, advance resource allocation and procurement planning, or formal policies to streamline intelligence sharing. On the other hand as described in the UK Resiliency Policy below, British counterparts go to great lengths to meet in advance to bring such matters to light before the exigencies of crisis force collaboration under fire.

1.   British Resiliency Policies

The United Kingdom has a long history of dealing with terrorist activity, with attacks associated with the Irish Republican Army (IRA) and its affiliates dominating most of the twentieth century. In the face of post-9/11 attacks attributed to Islamist terrorism, both the U.S. and Britain have responded by addressing gaps in domestic security policies with mixed results. The U.S. established the Department of Homeland Security to combine 22 federal agencies that employ over 180,000 people (Cornish, 2007, p. 10). Britain created an international counter terrorism strategy, CONTEST. This strategy is a collaborative effort that includes stakeholders across governmental departments, emergency services, voluntary organizations, business sector and international partners.

As noted, the British approach "treats terrorism as one of a number of causes of emergency, which should be planned for and managed using variable architecture of cooperation between central/regional and local government, and between competent

agencies" (Cornish, 2007, p. 10).   Moreover, the British counter-terrorism strategy highlights reducing terrorist risk as a way to free citizens to go about their daily lives (United Kingdom Foreign and Commonwealth Office, 2009). By using four inter-linked strands, the intent is that CONTEST will contribute to reducing that risk.   The four principal strands are:

- **Prevent** terrorism by tackling the underlying causes of radicalization in the UK and abroad, and by engaging in a battle of ideas against those who project an extremist ideology;

- **Pursue** terrorists and those that sponsor them by gathering intelligence and disrupting terrorist activity, and by working with allies and partners internationally;

- **Protect** the public and UK interests by strengthening border security, improving security of key utilities, and by protecting the public in crowded places; and

- **Prepare** for the consequences of a terrorist attack by developing the necessary means with which to respond to an attack, and by a process of testing and evaluating national preparedness. (Cornish, 2007, p. 9)[33]

While the Prevent and Pursue strands are considered pre-emptive measures, Protect and Prepare were notably beneficial to London's response and recovery immediately after the July 2005 bombings (Wheeler, 2005, p. 9).   Under the Prepare strand there are two important concepts—Civil Contingency and Resilience—that exemplify organizational infrastructure and cooperation that are missing from the US U.S. model.

Experts suggest that effectively dealing with the strategic threat of terrorism requires "a policy and operational response [that] acknowledges the complexity and interconnectedness of the contemporary strategic threat which can adapt and evolve as circumstances change" (Cornish, 2007, p. 5). Furthermore, Britain amended its policy to reflect this strategy by recognizing the importance of its local agencies and reflecting that acknowledgement with transformative language in its domestic security policy and

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[33] For complete description of CONTEST see
http://www.jamestown.org/single/?no_cache=1&tx_ttnews%5Btt_news%5D=34898**)**.

planning. Consequently, "civil defense" is now "civil contingencies" and "resilience." [34] According a to report published in 2007, the new terminology bodes well toward a multi-level efficient combination of a "top-down" and "bottom-up" approach that distributes the responsibility for risk management and emergency responses within the national counter-terrorism response (Cornish, 2007, p. 5).

The legislation that delineated the framework was the Civil Contingencies Act[35] of 2004. The value of this legislation was in expediting future passage of emergency laws and incorporating local and regional partnerships into the responsibility of emergency services (Cornish, 2007, p. 10). The Act's focus is on adverse consequences whether from acts of terrorism, natural disaster, or major accident.

The British organizational structure for responding to civil emergencies relies on two principles. First, the response begins at the local level, with additional resources flowing in from regional followed by national levels. Second, each disaster has one lead department to coordinate the overall government response, with the national emergency machinery assigned a supportive role only as necessary (Cornish, 2007, p. 11).

By contrast, in the U.S. the Federal Emergency Management Agency (FEMA) plays a greater role in the mid-term response and in most of the disaster recovery. Consequently, the U.S. theater of operations invites more confusion and conflict in those circumstances when a local government agency in the lead finds that a federal agency is responding to the same incident at the same time. Every incident is unique, and there are instances when collaboration may impede response by imposing delay. However, as decision making and task interdependencies increase in complexity, effective collaboration becomes extremely critical (Hocevar, Thomas, & Jansen, 2006, p. 257).

The Act is divided into two parts: Part I defines roles and responsibilities for local authorities involved in emergency preparation and response. There are two categories of responders, both with separate and distinct sets of duties.

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[34] For this thesis, resilience is defined as "the ability to manage disruptive challenges, such as terrorist attacks, chemical biological, radiological or nuclear (CBRN) incidents or major flooding that can lead to or result in crisis" (Office of the Deputy Prime Minister, 2005).

[35] The Civil Contingences Act hereafter referred to as the Act.

Category I responders are the primary actors at the core of the response to an emergency and are subject to a full set of civil protection duties that requires they implement or undertake certain tasks during emergencies:

- Assess the risk of emergencies occurring and use this to inform contingency planning;
- Put in place emergency plans;
- Put in place business continuity management arrangements;
- Make information available to the public about civil protection matters,
- Maintain arrangements to warn, inform, and advise the public in the event of an emergency;
- Share information with other local responders to enhance co-ordination;
- Co-operate with other local responders to enhance co-ordination and efficiency;
- Provide advice and assistance to businesses and voluntary organizations about business continuity management. (Cornish, 2007, p. 13)

Category II responders are "cooperating bodies" that are generally non-emergency services partners. Outside of emergencies directly affecting their sector, Category II organizations are rarely involved in the planning aspect. Their range of duties is minimal compared to Category I responders however, they are also required to co-operate and share relevant information with other Category I and II responders.

An important aspect of the Act requires that fire and rescue authorities work in co-operation with all first responders, local authorities and other emergency services. The modality for sharing information comes from the formation of Local Resilience Forums (LRFs) and through Regional Management Boards. These required working relationships offer the greatest capacity for coordination and cooperation among responders at the local level while concurrently meeting the intent of statutory obligations under Part 1 of the Act.

London has six such collaborative forums tasked with the identifying and assessing local risks to anticipate a significant emergency. Forum participants assess risks a score based on their likelihood of occurrence. Then they log the scores in a publicly available Community Risk Register (CRR). Participation in this process

includes "representatives from the emergency services, local authorities, government agencies, health, utilities, voluntary organizations, business and the military (London Fire Brigade, 2009)."

To support collaboration and continuity in the UK, each Category I agency identifies an emergency planning officer. The officer's responsibilities are to ensure their agency complies with the Act and serves as the liaison with other agencies. In this capacity, the emergency planning officer is responsible for coordinating and sharing relevant information with other responders. Additionally, these officers ensure there is a coordinated response to terrorist attacks and, more importantly, they sustain formal relationships with both law enforcement and the fire service. The Home Office collaborates with the Association of Chief Police Officers, while the fire service works under the Department for Communities and Local Government.

Another British example of multi-disciplinary collaboration is the Tacticians' Forum established in 2004 as a conduit for first responders to compare notes and develop planning and response solutions. Nationally, the multi-agency groups that participate in the forum are recognized as the leaders empowered to resolve emergent response coordination challenges for incidents involving chemical, biological, radiation or nuclear (CBRN) weapons.

This forum includes members from a broad spectrum of disciplines and organizations that are primarily from the emergency services and central government agencies. Forum participants develop planning and response tactics as well as guidance for emergency workers across the country. When necessary, the forum serves as an intermediary between policy units and frontline responders. Its primary purpose is to facilitate communication across the emergency services while emphasizing joint objectives, terminology, and training. What the forum is not responsible for is the development and implementation of policy related CBRN strategy (United Kingdom, 2009).

While the London Fire Brigade (LFB) participates in all of the Local Resilience Forums and any of the Regional Resilience Forums deemed appropriate, LFB views the

Act as more of an organizational framework than a new burden for the Fire and Rescue Authorities (Office of the Deputy Prime Minister, 2005, p. 29). Hence, the Regional Resilience Forums work to elevate the coordination of planning and enhance communications between the center and the region; and between the region and local responders.

Lastly, a significant attribute of the British approach to emergency response is its nationally accepted framework for managing the local multi-agency response and recovery. This process engages a collaborative pool of experts and avoids the need for erecting a huge new bureaucracy to organize the response, while maintaining a clear chain of command. Three management tiers comprise the framework, Bronze, Silver, and Gold, thereby reducing confusion of roles and responsibilities. Based on formal relationships reinforced through forums, agencies become well versed in stakeholder missions, the statutory requirement to share information, and the identification of associated risks.

2. U.S. Policy Implications

The 9/11 Commission asserts the need to transform the organization of government in a new way that achieves a unity of effort and delivers on the claim that "Good people can overcome bad structures. They should not have to" (2004, p. 399). Nevertheless, four years later, homeland security observers noted that barriers to unity of effort remained a challenge and in need of "...coordination and cooperation by the disparate partners in homeland security to accomplish mutually agreed objectives" (Stockton & Roberts, 2008, p. 1). Furthermore, the panel of experts articulated the difficulty of building unity of effort across jurisdictional boundaries. "Effective unity of effort will only emerge when the stakeholders in homeland security—federal, state, local, and private sector—help formulate the goals that the stakeholders will jointly pursue and reach consensus on the means to achieve them" (Stockton & Roberts, 2008, p. 2).

A contributing factor is that there are numerous national homeland security guidance documents and strategies on planning, responding, and recovery, but none addressing coordination and cooperation. Only recently, has there been effort

specifically geared toward information/intelligence sharing, and few of these are directed toward the fire service. Moreover, these modern policies and frameworks for managing emergency responses primarily focus at the federal level. Some examples of the most prominent ones addressing emergency response protocols include the National Response Framework; the National Incident Management System (NIMS) and the Incident Command System (ICS); the National Preparedness Goal; and the Target Capabilities List.

The sheer volume and magnitude of these documents leaves state and local agencies awash in a sea of marginally relevant federal guides or unfunded mandates. At the same time as they are inundated with these materials, local agencies find themselves facing extraordinary challenges to meet minimum standards with aging infrastructure yet without funding to meet these mandates. Regardless, federal policy makers continue to create or amend polices after every real or perceived failure in a major emergency response. Although after-action reports and the accompanying lessons learned can be invaluable for future planning, most of the time the new capabilities may not be appropriate in every jurisdiction and certainly not nationally. The caveat being that these documents are produced and available for review in a timely manner. Experiences of Hurricanes Katrina and Rita are examples where gaps in preparedness and regional responses may have applicability however; hurricanes are not a threat in most parts of the country. Although most first responders agree with this sentiment, this issue remains a major concern and a source of frustration among state and local authorities (Royal et al., 2008, pp.19–20).

To clarify and prioritize objectives, one may ultimately turn to the *National Strategy for Homeland Security*, issued first in 2002 and updated in 2007. This strategy focuses on four goals:

- Prevent and disrupt terrorist attacks;
- Protect the American people, our critical infrastructure, and key resources;
- Respond to and recover from incidents that do occur; and
- Continue to strengthen the foundation to ensure our long-term success. (U.S. Homeland Security Council, 2007, p. 1)

While the strategy contends that it is a living document meant to evolve with the current trends and threats, its most recent version was largely reactive to failures in the response to Hurricane Katrina. Where it falls short is it recognizes the importance of planning, collaboration, and information sharing, but it does not identify a formal machinery to accomplish this. The inference is that policies to deal with such issues will be addressed by states, and local governments through their public safety leaders.

At the federal level, the National Response Framework (NRF) is a guide to how the nation conducts all-hazards response. The plan delineates that "it is built upon scalable, flexible, and adaptable coordinating structures to align key roles and responsibilities across the Nation" (DHS, 2008, p. 1). The framework describes roles and responsibilities that incorporate emergency service function annexes. Additionally, there are five principles that define actions in support of the nation's response mission. Taken together, these five principles constitute the national response doctrine.

Those five key principles are:

- Engaged partnership

- Tiered response

- Scalable, flexible, and adaptable operational capabilities

- Unity of effort through unified command

- Readiness to act. (DHS, 2008, p. 8)

The National Response Framework "is rooted in America's federal system and the Constitution's division of responsibilities between federal and state governments" (DHS, 2008, p. 8). This separation stands in contrast to the inclusive collaboration of Britain's strategy. However, during natural or induced disasters, significant hurdles arise when the political environment makes it unclear who is in charge or which agency is responsible for what task. In partial recognition of this dilemma, the U.S. developed the National Incident Management System as a step on the path to standardized command structures for emergency response.

Where Britain incorporates emergency response into its counter-terrorism strategy, the U.S. differentiates between the two. Having separate and sometimes competing objectives adds to the state of uncertainty that inhibits interagency collaboration.

The fire service should be a central player in developing all-source situational awareness rather than taking a sideline approach. With law enforcement centric strategies in the United States, what has developed is a fractured infrastructure to share intelligence. Britain has implemented a functional model utilizing resiliency forums at each level of government. The British have also formalized collaboration and statutory relationships that support intelligence sharing in ways that could inform future U.S. strategy. If the fire service created corresponding forums and similarly engaged its critical partners, the resulting creation of shared knowledge would enhance inter-agency collaboration. In theory, by establishing resiliency forums at the local and regional levels, the U.S. would begin to overcome systemic barriers to information sharing.

Clarification of local responsibilities would also benefit from adopting the British method of categorizing partners as Category I and Category II responders. This categorization would reduce the uncertainties that persist regarding authority to share intelligence and the integration of non-traditional agencies into the intelligence-sharing project.

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VI.   RESEARCH FINDINGS

As a framework to shed light on the complexity of transforming a culture founded on over 200 years of tradition, the research methodology best suited for this subject matter was a multifaceted approach. Given the research questions were directed at EFOs, it was imperative to examine the leadership of the fire service in the context of existing theories and national guidance supporting the homeland security mission to deter, detect and prevent terrorism.

In a concerted effort to answer the following questions, the research began with a literature review that encompassed complexity theory, leadership, and relevant national strategies related to homeland security and intelligence sharing.

How can the fire service transform its current paradigm to one best suited to the demands of emerging homeland security issues related to intelligence and information sharing?

What barriers are impeding the adoption of intelligence functions?

Following a comprehensive literature review, the research dictated that the fire service's introduction into the intelligence arena remains a work in progress with limited published analysis on its trials and evolution. Hence, employing the Delphi method to survey a targeted group of independent experts in the fire service provides insight to inform this area of study.

Given that the machinery of intelligence is more commonly associated with the law enforcement community, the research strategy aimed at consulting the limited group of EFOs and firefighters with practical intelligence to capture their diverse perspectives in this emerging field. Accordingly, the researcher began to identify viable candidates to serve as subject matter experts (SMEs) within the limited fire-service intelligence community. The research group was originally selected from the fifteen fire departments that participated in the Fire Service Intelligence Enterprise National Strategy

workgroup. By participating in the 2009 National Fusion Center Conference in Kansas City, the researcher discovered additional EFOs who were both willing and able to contribute to this body of research.

The SMEs were selected because they have extensive practical experience in local, state, or regional collaborative efforts dealing with intelligence sharing in a multi-disciplinary and multi-jurisdictional environment. Eight experts work in their departments Homeland Security Division and collaborate with multi-disciplinary agencies. Seven are liaisons to the local Joint Terrorism Task Force, while three serve as Terrorism Liaison Officers. Five experts are fire service executives who promote intelligence functions and fulfill roles addressing strategic initiatives to support terrorism prevention within their respective fire departments and local jurisdictions. Lastly, three of the SMEs included alumni from the Naval Postgraduate School's Center for Homeland Defense and Security who have previously explored aspects of the fire service role within the fusion process, the FSIE, and the general homeland security enterprise.

Results from the surveys also identified three additional SMEs who maintained positions advancing intelligence initiatives within the fire service. With this new information, the second phase of the research included personal interviews with three additional fire service intelligence ambassadors. One of the SMEs served as the Terrorism and Homeland Security Chair for the International Association of Fire Chiefs and participated on the advisory committee for the Interagency Threat Assessment & Coordination Group (ITACG). Another served as chair of the Fire Service Intelligence Enterprise Workgroup and co-chaired the National Capital Region Fire Chief Intelligence working group. While the third is the first firefighter detailed to the ITACG assigned to the National Counterterrorism Center (ITACG) and is from a major urban fire department.

A.   QUESTIONNAIRE ANALYSIS

Beginning with the hypothesis that the fire service needs intelligence to enhance public safety and situational awareness but lacks the wherewithal to migrate from first responder to first preventer, the initial round of questions focused on what it would take

to see movement along this migration path. Specifically, the first research questionnaire asked about strategic initiatives that could collectively support an emerging mission of fire service intelligence and information sharing. Other questions were derived from the premise that homeland security initiatives geared toward the emerging threats of terrorism are in conflict with operational readiness. Lastly, the SMEs were asked to address innovation as it pertains to the relationship to situational awareness and systemic barriers to the first preventer mission.

The second round of questions focused on issues related to the infrastructure necessary to support the federal-led initiative to create fusion centers as a means to bridge the intelligence sharing disconnects between local and federal law enforcement communities. Given that fusion centers across the country have varying missions, the intent of the questionnaire was to uncover how fire service participation contributes to terrorism awareness, identify fire service-specific intelligence and whether situational awareness is enhanced by it. Final questions were geared toward the policy implications of engaging in an expanded role that addresses the areas of training, operating policies and procedures and the criticality of collaboration with LE.

The final round of questions intended to uncover critical issues EFOs need to resolve if they are to enhance their intelligence cognition. Additional questions related to security clearances and the utility of technology were to elicit responses that would support or dispute artificial barriers of access to LE-sensitive intelligence. As a means to gauge perceptions of community involvement in terrorism awareness, the SMEs were asked to identify campaigns that included the fire service as an active participant in suspicious activity reporting and whether their departments had policies that addressed civil liberties. In conclusion, the survey addressed forecasting the fire service's involvement in an expanded homeland security enterprise that supports the adoption of intelligence functions, strategies and implementation.

B. COMMON THEMES AND KEY FINDINGS

With each round, responses illustrated systemic barriers that underscored the importance of intelligence for the fire service but also the profound resistance to

expanding the fire services roles and responsibilities to meet its mission. Further, the survey responses illuminated several inductive categories that evolved into common themes that would serve as a footprint to edify transformation within the fire service. While these themes suggest systemic undertones exist uniformly, the larger implication is that a successful framework for transforming the fire service from its first responder posture toward a first preventer one will hinge on how well such a framework addresses these themes:

- Fire service culture,
- Contentious influences
- Intergroup dynamics
- Multi-disciplinary collaboration

Given that fire service culture was a dominant theme among the experts, delineating the principles that influence culture are key to an expanded first preventer mission. Although they all acknowledged the intelligence functions are predominantly associated with law enforcement, their fire service partners are also critical to this new expanded mission. As one expert noted, "We have to balance the fire service core mission with requirements against effective participation, which contributes to the larger issue of the homeland security enterprise."

The SMEs recognized that EFOs face leadership challenges within the fire service that extend from the International Association of Fire Chiefs (IAFC) down through the International Association of Firefighters (IAFF). As one chief commented, "The IAFC needs to show strong leadership with the nexus of understanding LE. That hasn't happened." While this shortfall is hardly unique, how it manifests throughout the leadership is when this perspective trickles down to state or regional fire chief associations. To that end, the participants noted that full participation in the intelligence and information sharing enterprise begins locally and expands out to neighboring municipalities. Without a concerted effort from this body of leaders support remains elusive and is isolated to major urban fire departments, thus exercising no influence on the regions adjacent to these cities.

Nevertheless, the core body of professional firefighters (IAFF) has its own hierarchy of leadership indifferent or antagonistic to intelligence initiatives. Nor has there been an overwhelming demand for dialogue, prompting one SME to observe, "When the IAFF speaks out against this [incorporating intelligence functions], it makes it difficult to move forward."

Furthermore, the SMEs acknowledged EFOs struggle with strategic and policy implications related to intelligence initiatives across the country, because they lack a framework for intelligence integration. One suggested, "EFOs should have a mechanism for intelligence." Another noted the importance of civil liberties. "Policy implications include developing training and procedures that assure privacy protections as well as required and optional reporting," While others suggested that EFO should not let the enormity of this issue paralyze advancement in this uncharted territory, because "intelligence is an adjunct to policy."

To further intelligence inculcation, several SMEs suggested that only after intelligence needs are identified are EFOs better positioned to make more accurate policies that support strategic initiatives. Although there are many, the experts articulated that the key policy implications critical to daily operations are training, personnel, protective equipment, staffing levels, and memoranda of understanding with partner agencies. Additionally the SMEs asserted that departments can also use intelligence in developing fire prevention inspection cycles or exchanging pre-fire plans with critical infrastructure units.

Given that decision makers have the daunting task of potentially expanding a 200-year-old mission, one SME suggested that "we have to question…the effectiveness of the fire service's core mission." Moreover, many SMEs postulated the priority of protecting the community begins with active participation in intelligence sharing, but citizens do not understand how terrorism awareness or suspicious activity reporting will complement this mission. One noted, "We have to trust what the community's needs are as we have an obligation to the community that may suffer from risks identified if the risk represents a threat to a building or greater risk."

Further, most SMEs noted the necessity of local government support as they pursue this expanded mission that includes suspicious activity reporting. SMEs also acknowledged the connection to the political life expectancy of elected leaders whose prospects are clearly enhanced if the community believes their public safety needs are being met. Complicating matters is the premise that fire chiefs generally occupy appointed positions which unintentionally put them in conflict if thrust into politically charged activities that will enhance operational readiness while risking negative publicity.

One of the most prevalent theories concerning systemic barriers to intelligence is the critical metric of intelligence cognition throughout the fire service. Intelligence cognition, within this body of research, describes the knowledge, awareness, perception and judgment of intelligence functions as they relate to the fire service. Most SMEs suggested that EFOs collectively share a negative perception of the value of intelligence because they lack a basic understanding. As one SME stated, "The fire service itself doesn't understand these issues and therefore is unable to relate them—or sell them—to the intel [intelligence] community. Potentially, this is a large gap—there are few people better positioned to understand a communities risk than the fire service."

Likewise, several SME indicated large bodies of EFOs believe intelligence falls outside the tradition and scope of the fire service because it is solely the function of the law enforcement. One SME noted, "This shortsighted vision is probably one of the biggest barriers that exist today." Others compared the relationship to operational readiness and safety when intelligence and information sharing occurs. This can be in the form of preplanning for critical infrastructure or for terrorism awareness during their daily tours.

Moreover, there is a clear relationship between the positive value ascribed to intelligence and success in combating negative perceptions of enhanced operational readiness. As one SME asserted, "Through integration and use of intelligence in everyday executive planning functions, an understanding of what intelligence has to offer the fires service can be developed." This philosophy was endorsed by all of the SMEs as a means to overcome the misconceptions of intelligence as it applies to the fire service.

Without this momentum, intelligence functions will elude the fire service and the culture will inevitably remain stagnant. While change and innovation can begin at every level of the fire service, the utility of intelligence must be embraced by EFOs if intelligence is to become a viable mission.

Within the fire service, EFOs and firefighters alike tend to rely on peer experience as a gauge of the viability of new theories or advancements in technology. The SMEs affirmed that EFOs need formal education and exposure to the benefits of intelligence which should be based on fire service practitioners demonstrated utility. The SMEs asserted that once EFOs are well versed and comfortable with intelligence, EFOs will find the best method to incorporate terrorism awareness or suspicious activity reporting functions within their departments.

To accomplish this indoctrination, it is imperative that every level be included for effective implementation. In that regard, the SMEs overwhelming affirmed that EFOs are the key to the ultimate transformation of the fire service. One SME opined, "We are working on changing the cultural firefighter mindset. To do this the firefighters need to understand how they fit into the larger picture." Furthermore, another SME articulated the critical role of EFOs as catalyst for change when he stated, "Agency heads drive the message down through an organization so that the line-level understand their roles"

Contentious influences encompass external demands common with homeland security initiatives that originate at the federal level. While competing missions are hardly unique to the fire service, when federal expectations become the sole driving force for intelligence sharing initiatives, they compete with local priorities. Specifically, if a state or local law enforcement office requests a firefighter for assignment to a task force or fusion center to assist with rescue or haz/mat planning, then that firefighter's department must be willing to redistribute the assigned firefighter's duties through backfilling or if possible, among co-workers who may already be overextended. Absent a demonstrable, near-term benefit for the fire department and even the assigned firefighter, supporting this resource drain becomes an undue burden and uphill battle. As the experts further articulated, few departments are incentivized to participate, yet many

are thrust into an interagency arena where available grant funding to offset the costs of such resources is routinely channeled to law enforcement partners, leaving zero dollars earmarked or available for the fire service.

The SMEs identified the foregoing situation as one with significant potential to undermine fire service advancement in the intelligence sharing enterprise. Presented with intelligence as yet another unsustainable mandate, EFOs are forced to choose between staffing funded positions and removing essential staff from core duties to support FLO/TLO posts associated with intelligence duties. One SME asserted that, given that today's fire service has become an all-hazard responder, these initiatives are "intended to improve services, protection, detection, etc. [However] minimal, if any, funding for locals is included. Thus, the mandate is rendered ineffective."

According to the SMEs, one of the most emotional arguments against intelligence functions in the fire service is their potential for damaging public trust by making snoops out of heroes. It derives from the apprehension that firefighters would trample on civil liberties and compromise private information at the expense of the positive relationship enjoyed by fire departments across the country. Acknowledging the importance of public perception, the SMEs nonetheless agreed that if intelligence cognition were to improve, this common concern could be properly addressed with public safety in mind. As one SME said, "We need discussion with both groups—ACLU and citizens… [in order] to educate the public and the ACLU." The extra time necessary to build intelligence capability slowly by explaining public safety objectives and community benefits is worth the effort. Moving slowly with public transparency to build this capacity while preserving community trust would alleviate concerns of both firefighters and the communities they serve.

The benefit to this strategy is that it would enlighten the community while exposing as unfounded claims that firefighters become spies when gathering intelligence. As several SMEs suggested, finding the balance between enhancing situational awareness and supporting the larger homeland security enterprise "requires two-dimensional thinking." This thinking recognizes the value of intelligence and forces EFO to adjust their current paradigm by thinking of the bigger picture.

Intergroup dynamics concerns adversarial relationship between law enforcement and the fire service. As previously suggested, the SMEs concluded that critical hurdles preventing intelligence sharing between the two public safety agencies is rooted in a lack of understanding. This misunderstanding encompasses intelligence needs, fire service contributions to the intelligence cycle, and general mistrust.

While the law enforcement community continues to control most terrorism intelligence and, by extension, related grant funding for this mission, homeland security leaders have been slow to admit that law enforcement's intelligence needs do not resemble those of the fire service. SMEs variously claimed fire service needs terrorist "tactics, techniques and procedures," or "trends, tactics and procedures," or even "threats, tactics and procedures." Trends could easily encompass both techniques and threats, as both provide information that will support situational awareness and strategic initiatives on training, resource allocations, and gap analysis. Most agree that the fire service should be concerned with tactics, imminent targets, threats and timely notice of attacks if the fire service is to contribute to the larger homeland security mission of protecting the public.

Unfortunately, most of the SMEs acknowledged that, post 9/11, local law enforcement agencies have made advances in intelligence-led policing but have neglected to include the fire service. As a result, law enforcement is more inclined to see terrorist intelligence as its exclusive preserve made easier to restrict through law enforcement control of security clearances for intelligence access. One SME claim is that security clearances restrictions prevent the flow of intelligence between the two partners. However this claim invites skepticism, as almost all of the SMEs either possessed security clearances or had members in their department with security clearances. Moreover, there were several SMEs who contended that LE ability to control "who" gets a security clearance, coupled with the vast inconsistencies between intelligence agencies, has caused severe tension in some parts of the country.

What became apparent was that having clearances does not automatically mean fire service inclusion in information/intelligence sharing. As one SME stated, "Clearances do not define relevance" Likewise, most agreed that intelligence is often

over classified when the relevant information could be sanitized of one or two sensitive details in order to reach a broader community of both firefighters and police officers. Through this broader distribution, law enforcement partners will be exposed to the benefits of fire service expertise while establishing a mutually beneficial relationship. As one SME explained, "Once the relationship is established, it will give the officers the ability to get properly vetted official information to their troops, thus increasing situational awareness."

Despite the abundance of federally led intelligence initiatives, the SMEs saw that tenuous relationships between LE and fire prevail in some parts of the country. Further, they strongly asserted that the fire service has a legitimate right to intelligence when there is the potential for harm to firefighters or an adverse impact to their ability to protect the public. When EFOs understand that they have a responsibility to expose this deficiency, they will be in a better position to demand a seat at the intelligence table.

Multidisciplinary collaboration speaks to efforts that bridge infrastructure with capabilities and capacity for intelligence sharing. As articulated by the Delphi SMEs, a plausible measure to meet this gap is to conduct cross-training in terrorism awareness while considering the efficacy to create collaborative partnerships with law enforcement to address the development and implementation efforts. Another is the perceived value of fusion center participation coupled with the use of emerging information sharing technology to support situational awareness.

All SMEs agreed that if the fire service intends to expand its current mission, the educational process has to begin with EFOs. They need instruction on the intricacies and methods of terrorism awareness, the intelligence cycle, suspicious activity reporting and exposure to other fire departments that have successfully collaborated with local and state law enforcement partners.

Another means to accomplish training and exposure is via the DHS sponsored TLO/FLO program; however, this type of training is generally independent of local collaboration. While not all of the SMEs participate in fusion centers, they all agreed that participation is beneficial if available. Where they disagreed was in appropriate levels of

participation. Some suggested that virtually participating and getting together on an ad hoc basis was sufficient for most departments. Others observed that participation was critical and should be a priority for EFOs when making resource allocations. One SME postulated, "In the long run, these relationships enhance inter-agency strategic planning and grant capture strategies." While an SME who is actively engaged in TLO programs, went a step further when he suggested that firefighters in TLO or FLO positions are essential to the homeland security mission because they bring their unique lens to the integration of information across disciplines. While there are few models of successful integrations of TLO/FLO programs, the consensus was that these programs will become much more prevalent when funding sources are identified to sustain these investments.

Most of the SME acknowledged that their departments had limited or non-existing policies for addressing terrorism awareness and intelligence training. Despite this inconsistency, they universally agreed that any training should follow a thorough review of existing department polices and even the creation of new ones. Additionally, to build this new capability, all policies should be vetted with critical stakeholders prior to implementation.

As a means of enhancing collaboration, the SMEs addressed homeland security technology as a tool to support the exchange intelligence. The utility of technology was supported by the fact that all but one of the SMEs uses technology in some way to manage emergency information. Interestingly, the SMEs demonstrated variable degrees of implementation and conversance with a broad array of applications, from secured to non-secured. Some were fully integrated into extensive networks such as Law Enforcement Online (LEO), Homeland Secure Data Network (HSDN), Secret Internet Protocol Router Network (SiPRNET), and Microsoft SharePoint, while others used homegrown networks. While all agreed that technology infusion has its merits, they also lamented that few technological advances appear on the horizon if not directly flowing from a fusion center or joint terrorism task force.

C. SUMMARY

The SMEs provided insight into several key barriers preventing intelligence functions from being implemented into the fire service. As previously articulated, the four critical themes of fire service culture, contentious influences, intergroup dynamics, and multi-disciplinary collaboration are at the root of a strategy for transformation.

Unfortunately, the fire service as a whole has not recognized the value of intelligence, nor has it been effective at the collaborative process of information and intelligence sharing with LE partners. Despite the general premise that collaboration occurs between law enforcement and non-traditional partners, the research findings indicate otherwise.

What is evident is that there remain collaborative expectations between law enforcement and non-traditional partners, yet actual collaborations fall short of acceptable levels as the U.S. nears its 10-year anniversary of 9/11.

Lastly, the SMEs asserted that a large part of this systemic failure falls on the shoulders of EFOs and is principally attributed to the overall lack of intelligence cognition. When EFOs do not understand intelligence, they can neither define nor articulate their needs to LE, thus forsaking the value intelligence has to offer.

VII. CONCLUSION AND RECOMMENDATIONS

A recurring theme within this body of research has been its role as springboard to stimulate interdisciplinary debate about barriers to integrating intelligence into the fire service. Absent such dialogue, fire service migration in the direction of a first preventer role appears hopelessly sidelined or destined for oblivion.

Challenges to intelligence sharing first came to light when the *9/11 Commission Report* identified the lack of overall situational awareness as a contributing factor for uninformed decision-making and an ineffective incident command structure. Subsequently, the absence of implementing the Incident Command System (ICS) resulted in inconsistent strategic objectives, inefficient coordination of on-scene resources, and the inability to communicate intelligence to those who need it most (9/11 Commission, 2004, p. 416).

Through the analysis of national documents, this thesis demonstrated that gathering, analyzing and sharing intelligence is paramount for the prevention and deterrence of future terrorist acts against the homeland. Moreover, national strategies identified that a multi-directional flow of information must include state, local and tribal partners to prevent future terrorist attacks, and to counter and respond to threats (White House, 2007, p. 3). One in particular, the *National Strategy for the Fire Service Intelligence Enterprise*, specifically targeted the fire service when it delineated that, "fire service personnel need ongoing support of intelligence products that include potential or actual incident threats so that EFOs can leverage resources toward preparation and response capabilities" (DHS, 2008, p. 6).

The driving force to integrate the fire service into the intelligence arena is rooted in national strategic guidance that identifies the fire service is a critical partner in efforts to secure the homeland. Most EFOs widely accept this mandate in the context of their traditional core disciplines. Conversely, a large contingent still resists incorporating intelligence functions into the fire service because of widespread doubts expressed by front-line firefighters and mid-level fire officers. Some have suggested intelligence

functions verge on mission creep[36] and that suspicious activity reporting should be limited to law enforcement. Clearly, what are underrepresented in this dialogue are the few EFOs who can serve as the catalyst to champion the necessary culture shift.

A.   OPERATIONALIZE INTELLIGENCE

This research provided insight into several barriers preventing the indoctrination of intelligence, with four themes emerging as key to a strategy for change. The four critical themes were identified as: fire service culture, contentious influences, intergroup dynamics, and multi-disciplinary collaboration.

Despite a sobering call to action on 9/11, EFOs remain challenged to integrate into the intelligence network. As one SME articulated, "The fire service needs a wider systems view—as opposed to the singular mission scope. We have a role in homeland security which is not mutually exclusive" (ACTC, 2008–2010).

Clearly, the majority of the fire service has not recognized the value of intelligence nor has it been effective at the collaborative process of intelligence sharing with their LE partners. Most alarming is the disconnect between public expectations of collaboration between unequivocal fact that there remain collaborative expectations between law enforcement and non-traditional partners that remain more aspirational than realized at the local and regional levels. Considering that the U.S. is nearing its ten-year anniversary of 9/11, this speaks volumes about the priorities of current grant and program directives. While fusion centers have an abundance of funding streams, it appears that none is earmarked for the benefit of the fire service.

The dynamic tension between the fire service and law enforcement remains a complex and sensitive relationship. Admittedly, some of this tension arises primarily from overt differences in mission responsibilities and operational objectives (Royal et al., 2008, p. 15). Unfortunately, this friction gives rise to several fundamental problems that undermine the larger mission of intelligence sharing. Before either police or fire can

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[36] The term *mission creep* can be traced to the military and refers to organizations that expand their capabilities causing conflicts with traditional missions of existing agencies (Siegel, 2000, p. 112).

transform behaviors, assumptions, and outcomes, both need to recognize that while they generally act independently, they must nevertheless co-exist as partners within the communities they serve.

As highlighted by this research, the lack of intelligence cognition by most EFOs is considered a fundamental problem across the country. When EFOs do not understand intelligence, they cannot articulate their needs to LE or within their own departments. Thus, while few EFOs are talking about intelligence or engaging in interdisciplinary debate, there are more who may view the dialogue as noise rather than a critical function to support their public safety missions.

To cultivate leadership in the fire service, a priority should be the creation of a professional development program that emphasizes the role of the fire service as part of the larger homeland security mission. Without educated leaders, major urban fire departments will miscalculate their roles and jeopardize firefighters and the communities they serve.

B.   CONCLUSION

Complacency post 9/11 is a recipe for disaster. As America witnessed firsthand, the rules of engagement changed dramatically that dreadful day. Experts contend that "We must observe what is going on around us and be ever vigilant to guard against another tragedy such as the one that occurred on that fateful September morning" (Waite, 2008, p. 76). A key to this level of awareness clearly involves operationalizing intelligence functions within the fire service.

As history has revealed, maintaining the status quo with a lack of imagination can have catastrophic results. EFOs who perpetuate this philosophy clearly discount national intelligence estimates suggesting terrorist groups continue to exist and remain a serious threat (National Intelligence Council, 2007, p. 6). Given today's environment, being innovative and collaborative are more than philosophical choices, they are mandates for the modern fire service's survival.

Intelligence provided to fire departments has been called a force multiplier allowing firefighters to focus limited resources on training and readiness for specific scenarios (Gartenstein-Ross & Dabruzzi, 2008, p. 4). More importantly, it is the duty of EFOs to pursue an innovative, collaborative strategy founded on a robust goal of adapting its own paradigm to changing conditions. As intelligence functions are woven into the fabric of the fire service, future generations will effectively embody the doctrine of deterring and preventing terrorist attacks.

This thesis asserts that, within the fire service, there are schools of thought that embrace this strategy as a means to support the mission of protecting their communities and their firefighters as a natural extension of duties conducted every day by fire departments across the nation.

Despite the absence of a successful terrorist attack on American soil since 9/11, first responders must be cognizant that an attack is inevitable. Likewise, it is imperative that EFOs remain vigilant in their efforts to deal with low probability—high consequence events. While the American citizenry faces periodic reminders of the threat as the memory of 9/11 fades and fosters complacency, the fire service must continue to evolve if it is to remain vital and effective. The next step on its evolutionary path is intelligence sharing—a necessity for adaptation and survival.

APPENDIX—CRITICAL INFORMATION MANAGEMENT SYSTEMS GUIDLINES

The software should:

- Be affordable given the size of a jurisdiction's budget.

- Be user friendly.

- Be easy to maintain by existing EMA staff with access to the vendor's technical support services.

- Be easy to tailor to the conditions and policies of the agency.

- Allow for remote access by authorized users located outside the LAN.

- Comply with the provisions and standards for Incident Command System (ICS). ICS is the model tool for command, control, and coordination of a response and is built around five major management activities of an incident:

  - Command.
  - Planning.
  - Finance/administration.
  - Operations.
  - Logistics.

- Comply with the provisions of the Emergency Support Functions (ESF). ESF consists of 12 main groups that manage and coordinate specific categories of assistance common to all disasters.

- Each ESF group is headed by a lead organization responsible for coordinating the delivery of goods and services to the disaster area and is supported by numerous other organizations. The ESF annexes are—

  - Transportation (ESF 1).
  - Public works and engineering (ESF 3).
  - Information and planning (ESF 5).
  - Resource support (ESF 7).
  - Urban search and rescue (ESF 9).
  - Food (ESF 11).
  - Communications (ESF 2).
  - Firefighting (ESF 4).
  - Mass care (ESF 6).
  - Health and medical services (ESF 8).
  - Hazardous materials (ESF 10).
  - Energy (ESF 12).

- Integrate with other systems, such as mapping, other CIMS, and telephonic alert notification systems.

- Integrate public health into emergency management.

- Operate within a variety of network configurations.

- Have a wide range of features consistent with the four phases of emergency management operations: planning, mitigation, response, and recovery.

- Have help desk support available on a 24-hour, 7-days-per-week basis, including on-call or availability by cellular phone (U.S. Department of Justice, 2002, p. 7).

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